Rhodora

JOURNAL OF THE

NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

CHARLES ALFRED WEATHERBY
ALBERT FREDERICK HILL
STUART KIMBALL HARRIS
} Associate Editors

Vol. 49. December, 1947. No. 588

CONTENTS:

Name of the Wild Dilly of Florida. *Elbert L. Little, Jr.* 289
Penstemon gracilis, var. wisconsinensis. *N. C. Fassett.* 293
Varieties of Solidago uliginosa. *M. L. Fernald.* 294
The Genus Crepis (Review). *Lincoln Constance.* 297
Crepis nana not yet known from Gaspé. *M. L. Fernald.* 299
White-flowered Desmodium from Virginia. *Lena Artz.* 299
Errata. 300
Index to Volume 49. 301

The New England Botanical Club, Inc.

8 and 10 West King St., Lancaster, Pa.

otanical Museum, Oxford St., Cambridge 38, Mass.

RHODORA.—**A monthly journal of botany, devoted primarily to the flora of the Gray's Manual Range and regions floristically related. Price, $4.00 per year, net, postpaid, in funds payable at par in United States currency in Boston; single copies (if available) of not more than 24 pages and with 1 plate, 40 cents, numbers of more than 24 pages or with more than 1 plate mostly at higher prices (see 3rd cover-page). Volumes 1–9 can be supplied at $4.00, 10–34 at $3.00, and volumes 35–46 at $4.00. Some single numbers from these volumes can be supplied only at advanced prices (see 3rd cover-page). Somewhat reduced rates for complete sets can be obtained on application to Dr. Hill. Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be considered for publication to the extent that the limited space of the journal permits. Forms may be closed five weeks in advance of publication. Authors (of more than two pages of print) will receive 15 copies of the issue in which their contributions appear, if they request them when returning proof. Extracted reprints, if ordered in advance, will be furnished at cost.**

Address manuscripts and proofs to

M. L. Fernald, 14 Hawthorn Street, Cambridge 38, Mass.

Subscriptions (making *all remittances* payable to RHODORA) to

Dr. A. F. Hill, 8 W. King St., Lancaster, Pa., or, preferably, Botanical Museum, Oxford St., Cambridge 38, Mass.

Entered as second-class matter March 9, 1929, at the post office at Lancaster, Pa., under the Act of March 3, 1879.

RHODORA INDEX; REQUEST FOR CORRECTIONS.—A cumulative index to the first fifty volumes of Rhodora is being prepared. Any user of RHODORA who has noted errors in the indices to the various volumes will greatly aid in the enterprise by sending the corrections to the EDITORS.

Rhodora

JOURNAL OF THE

NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

CHARLES ALFRED WEATHERBY
ALBERT FREDERICK HILL
STUART KIMBALL HARRIS
} Associate Editors

VOLUME 49

1947

The New England Botanical Club, Inc.

8 and 10 West King St., Lancaster, Pa.

Botanical Museum, Oxford St., Cambridge 38, Mass.

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 49. December, 1947. No. 588.

THE NAME OF THE WILD DILLY OF FLORIDA

Elbert L. Little, Jr.

In recent studies, Gilly (Trop. Woods **73:** 1–22. 1943) and Cronquist (Bull. Torrey Bot. Club **72:** 550–552. 1945) have confirmed the earlier conclusion of Nuttall and Baker that the wild dilly (family *Sapotaceae*) of southern Florida and the Bahama Islands is congeneric with the sapodilla, *Achras Zapota* L., but both have adopted *Manilkara* Adans. for the generic name. For the wild dilly Sargent (Man. Trees No. Amer. Ed. 2, 819. 1922) used *Mimusops emarginata* (L.) Britton, and Sudworth (Check List Forest Trees U. S. 221. 1927) had *Mimusops parvifolia* (Nutt.) Radlk. A check of the nomenclature for the forthcoming Forest Service "Check List of the Native and Naturalized Trees of the United States, including Alaska" reveals that a new combination is needed under either *Achras* or *Manilkara.* After an evaluation of these generic names, a new combination for the wild dilly is proposed here in *Achras.*

Contemporary specialists in the *Sapotaceae* have restricted *Mimusops* L. (Sp. Pl. 349. 1753; Gen. Pl. Ed. 5, 165. 1754) to Asiatic species and have transferred the tropical American species of this genus, as well as others from Africa, Asia, and Oceanica, to the segregate genus *Manilkara* Adans. (Fam. Pl. **2:** 166. 1763). The latter was revived by Dubard (Notul. Syst. **3:** 45–46. 1914; Marseille Mus. Colon. Ann., sér. 3, **3:** 1–62. 1915), who proposed the first binomials in it. Other monographers adopting *Manilkara* include: Lecomte (Notul. Syst. **3:** 336–345. 1918), Lam (Bul. Jard. Bot. Buitenzorg, sér. 3, **7:** 1–289. 1925), and Baehni (Candollea **7:** 394–508. 1938).

For the sapodilla most recent authors have adopted *Achras Zapota* L. (Sp. Pl. 1190. 1753), though *Sapota Achras* Mill. (Gard. Dict. Ed. 8, *Sapota* No. 1. 1768) is used by a few, including Bailey and Bailey (Hortus Second 658. 1941). Cook (Contrib. U. S. Natl. Herb. **16:** 277–285, illus. 1913), Pittier (Contrib. U. S. Natl. Herb. **18:** 76–86, illus. 1914), Gilly, and others have discussed the controversial nomenclature. Gilly showed that *Achras* L. and *Manilkara* Adans. are connected by transitional forms and should be united. However, he adopted *Manilkara* Adans. for the combined genus, made the new combination *Manilkara Zapodilla* (Jacq.) Gilly for the sapodilla, and proposed *M. bahamensis* for the wild dilly. Some additional remarks may be in order.

Achras L. (Sp. Pl. 1190. 1753; Gen. Pl. Ed. 5, 497. 1754) is associated with the reference to Plumier (Nov. Pl. Amer. Gen. 43, pl. 4. 1703), as the genus was based upon Plumier's description and plate (Internat. Rules, Ed. 3, Art. 20, 42). Because Plumier's description was incomplete and did not mention the number of stamens, Linnaeus was unable to classify the genus in his sexual system. In the first five editions of the Genera Plantarum (1737 to 1754), Linnaeus placed this genus in the Appendix, and in the first four of these under "Fragmenta Plumieri". Plumier's figure, which Cook reproduced, contained a seed of sapodilla and fruits generally regarded as sapodilla, but the flower appeared to be different.

The next name, *Sapota* Mill. (Gard. Dict. Abridged. Ed. 4, v. 3. 1754), had a reference to Plumier but none to *Achras* L. and is considered a synonym, though Miller described the sapote instead. Miller first included *Sapota* in a supplementary volume of the Gardeners Dictionary published in 1739. Beginning with the 1759 edition (Miller, Gard. Dict. Ed. 7. 1759), the first cited by Gilly, *Achras* L. appeared as a synonym. In a somewhat later, posthumous edition (Miller, Gard. Bot. Dict. 1807), *Achras* L. finally was adopted.

After 1753 *Achras* was first accepted by Patrick Browne (Civ. Nat. Hist. Jamaica 200–201, pl. 19, fig. 3. 1756), who had eight species but no generic description nor binomial nomenclature. Loefling (Iter Hispan. 186. 1758) emended Plumier's description of the sapodilla under the name *Achras* without binomial

nomenclature. With Loefling's corrected description on the sapodilla, Linnaeus (Syst. Nat. Ed. 10, **2:** 988, 1381. 1759) now published "ACHRAS *emendatione Loeflingii*" and placed the genus in the Hexandria Monogynia, now that the number of stamens was known. This emended generic description in almost the same form appeared in the next edition of the Genera Plantarum (Ed. 6, 173. 1764). Most subsequent authors have accepted *Achras* L. as emended.

Similarly, *Achras Zapota* L. (Sp. Pl. 1190. 1753), published in the appendix as the only species of the genus dating from 1753, has been adopted for the sapodilla by most later authors. Though most of the pre-Linnaean synonyms cited referred to the sapote, *Calocarpum Sapota* (Jacq.) Merr., Linnaeus afterwards emended the descriptions so that *Achras Zapota* L. (Syst. Nat. Ed. 10, **2:** 988. 1759) and *A. Sapota* L. (Sp. Pl. Ed. 2, 470. 1762), a variant spelling, characterized the sapodilla and *A. mammosa* L. (Sp. Pl. Ed. 2, 469. 1762) the sapote.

The Linnaean Herbarium contains two specimens labeled *Achras Sapota*, according to Savage (Catal. Linn. Herb. 64. 1945). However, Jackson (Index Linn. Herb. 1912) indicated that this species was represented in the herbarium in the enumeration in 1767 but not in 1753 and 1755. Examination of the photographs of the Linnaean Herbarium in the Arnold Arboretum confirms that one specimen is the sapodilla, but the other is an unrelated plant, of which the specific epithet had been deleted afterwards by James E. Smith. Though Linnaeus did not have the modern concept of types, the specimen in the Linnaean Herbarium, which may be regarded as representative and as the type of both genus and species, agrees with present usage of the name. In the International Rules, *Achras Zapota*, the single species published in 1753, is listed as the standard species of the genus.

Linnaean names of 1753–1754 must not be rejected without sufficient cause, as they represent the foundation of nomenclature and have priority over all other names. Svenson (Rhodora **47:** 273–302, 363–388, illus. 1945), Fernald (Jour. Arnold Arboretum **27:** 386–394, illus. 1946), and others have noted that many Linnaean species consist of more than one species under present usage and have advocated retention under established custom (Art. 5) of Linnaean names based in part on the element

long accepted as typical. Where Linnaean genera and species represented broader concepts than at present and were composite groups, the original names must be retained for appropriate segregate elements (Art. 51, 52).

Achras L. and *Achras Zapota* L., names for the sapodilla, should not be cast aside merely because the earlier reference by Plumier contained incorrect description and drawings and because the synonyms cited under the species referred mostly to the sapote. *Achras* L., as emended by Loefling and Linnaeus himself, should be retained under Article 50, which states that an alteration of the diagnostic characters of a group does not warrant a change in its name. Gilly's proposals that *Achras* L. (1753) be rejected as a *nomen ambiguum et confusum* (Art. 62, 64) and that *Achras* L. emend. Loefl. (1758) be rejected as a later homonym (Art. 61) seem unnecessary.

If future usage is not uniform, then the problem can be settled easily by making *Achras* L. emend. Loefl. (1758 or 1759) a *nomen conservandum*. Under Article 21 *Achras* L. clearly is eligible for conservation as a name that has come into general use in the fifty years following its publication in 1753 and in important works up to 1890. The first binomial in *Manilkara* Adans. was published in 1914, only 33 years ago and 161 years after *Achras Zapota* L. The forty or more species of *Manilkara*, nearly all transferred from *Mimusops*, can easily be transferred to the older and familiar genus without confusion.

Accordingly, a new combination in *Achras* is proposed below for the wild dilly. Its basonym, incidentally, is one of the two original species of *Sloanea* L. (Sp. Pl. 512. 1753; Gen. Pl. Ed. 5, 288. 1754). This Linnaean genus of *Elaeocarpaceae* cannot be rejected in spite of the fact that one of the two species placed in it by its author is now in the *Sapotaceae*.

Achras **emarginata** (L.) Little, comb. nov. *Sloanea emarginata* L., Sp. Pl. 512. 1753. *Sapota achras* γ. *depressa* A. DC. in DC., Prodr. **8**: 174. 1844. *Achras zapotilla* β *parvifolia* Nutt., No. Amer. Sylva **3**: 28, pl. 90. 1849. *Mimusops Sieberi* [A. DC., sensu] Chapm., Fl. So. U. S. 275. 1860; A. Gray, Syn. Fl. No. Amer. **2** (**1**): 69. 1878; Sargent, Silva No. Amer. **5**: 183, pl. 251. 1893. Non *Mimusops Sieberi* A. DC. in DC., Prodr. **8**: 204. 1844. *Achras Zapotilla* var. *parviflora* Nutt. ex A. Gray, Syn. Fl. No. Amer. **2** (**1**): 69. 1878; pro synon. (error for "*parvifolia*").

Mimusops parviflora Radlk., Sitzber. Bayer. Akad. der Wiss., Math.-Phys. Kl. **12:** 344. 1882. *Achras bahamensis* Baker in Hook., Icon. Pl. **18:** pl. 1795. 1888. *Mimusops floridana* Engl., Engl. Bot. Jahrb. **12:** 524. 1890. *Mimusops parvifolia* Radlk. ex Pierre, Not. Bot. Sapot. 37. 1891; Pierre & Urban, Symb. Antill. **5:** 171. 1904; Britton & Shafer, No. Amer. Trees 782, fig. 714. 1908. Non *Mimusops parvifolia* R. Br., Prodr. Fl. Nov. Holl. **1:** 531. 1810. Non *Mimusops parvifolia* Kurz, Forest Fl. Brit. Burma **2:** 124. 1877. *Mimusops bahamensis* (Baker) Pierre, Not. Bot. Sapot. 37. 1891. *Mimusops depressa* (A. DC.) Pierre, Not. Bot. Sapot. 37. 1891. *Mimusops emarginata* (L.) Britton, Torreya **11:** 129. 1911. *Manilkara parvifolia* (Nutt.) Dubard, Ann. Mus. Col. Marseille, sér. 3, **3:** 16. 1915 [1916?]. Non *Manilkara parvifolia* (Kurz) H. J. Lam, Bul. Jard. Bot. Buitenzorg, sér. 3, **7:** 269. 1925. *Manilkara emarginata* (L.) Britton & Wils., Sci. Surv. Porto Rico **6:** 366. 1926. Non *Manilkara emarginata* H. J. Lam, Bul. Jard. Bot. Buitenzorg, sér. 3, **7:** 241. 1925. *Manilkara bahamensis* (Baker) Lam & Meeuse, Blumea **4:** 351, 354. 1941; Gilly, Rhodora **48:** 164. 1946. *Manilkara emarginata* (L.) Britton & Wils. subsp. *typica* Cronq., Bull. Torrey Bot. Club **72:** 557. 1945. *Manilkara jaimiqui* (Wright) Dubard subsp. *emarginata* (L.) Cronq., Bull. Torrey Bot. Club **73:** 467. 1946.

The wild dilly has an involved nomenclature, as revealed by the detailed synonymy above. It was discovered in the Bahamas by Catesby who published a description with colored plate (Nat. Hist. Carol. Baham. **2:** 87, pl. 87. 1733). *Sloanea emarginata* L. was based upon Catesby's citation and is not represented in the Linnaean Herbarium. Apparently the name was overlooked until 1911, when it was transferred as *Mimusops emarginata* (L.) Britton. Previously, the wild dilly had been included in the West Indian species, *Mimusops Sieberi* A. DC., or designated as *Mimusops parvifolia* Radlk.

Forest Service,
United States Department of Agriculture,
Washington, D. C.

Penstemon gracilis Nutt., var. **wisconsinensis** (Pennell), n. comb. *P. wisconsinensis* Pennell, Mon. Acad. Nat. Sci. Phila. i. 234 (1935). *P. gracilis* [subsp.] *wisconsinensis* Pennell, *l. c.* 632.

This name has been used in the Spring Flora of Wisconsin, 1938 and 1947, but without proper validating synonymy.—N. C. Fassett, University of Wisconsin.

THE VARIETIES OF SOLIDAGO ULIGINOSA

M. L. FERNALD

Since it is now evident that the type of *Solidago uliginosa* Nutt. (1834) is identifiable with that of *S. neglecta* Torr. & Gray (1842) —see Cronquist in RHODORA, xlix. 72 (1947)—it becomes necessary to find a name for the northern, often calcicolous species which, following Gray in the Synoptical Flora, has been erroneously passing as *S. uliginosa*. This species is *S. humilis* Pursh (1814), photograph of TYPE before me, not *S. humilius* (corrected *lapsus* for *S. humilis*) Mill. (1768). Apparently its first available name is *S. chrysolepis* Fernald in Ottawa Nat. xix. 168 (1905). The latter, *S. chrysolepis*, is a boreal species of calcareous to mediacid rocky or gravelly soils or marshes[1], occurring from near lat. 60° in northern Labrador to Manitoba, south to Newfoundland, Cape Breton, New Brunswick, northern and western New England, northwestern New Jersey ("Marl bog", Warren County; etc.), northeastern Pennsylvania, central and western New York ("Boggy calcareous meadows"—Wiegand & Eames, Fl. Cayuga L. Basin, 400), mountains of West Virginia (very local: at 2500 ft., east of Gormania, *Svenson*, no. 4449), Ohio, Michigan, Wisconsin and Minnesota. Its fleshy-coriaceous basal leaves are usually entire or merely undulate to crenate (only exceptionally serrate); its inflorescence an elongate thyrse 0.3–4.5 dm. long, with appressed erect cylindric (not secund) branches; heads on pedicels becoming 1–2 cm. long; involucres 4–6 mm. high; disk-florets 9–15.

On the other hand, true *S. uliginosa* (*S. neglecta* Torr. & Gray; *S. uniligulata* (DC.) Porter) is most often an extreme oxylophyte (only one variety definitely calcicolous), occurring in acid bogs and peats as a series of geographic varieties from Delaware and Maryland, very rarely in the upland south to North Carolina,

[1] The following memoranda by the collectors, taken from labels of *Solidago chrysolepis*, are to the point, omitting those from the Straits coast of Newfoundland, Anticosti and Mingan Islands, lower levels of Gaspé, the shores and islands of Lake Mistassini, the foot of James Bay and other exclusively or mostly limestone regions where the species abounds: talus of limestone cliff; rocky limestone barren; sur les tables de calcaire dolomitique des rivages; Arbor-Vitae swamp (usually marly); lime heath; marl bog; and, of course many from "bogs", "sphagnum bogs", etc., for the species tolerates some acidity. Search of field-labels of *S. uliginosa* will reveal few, if any, indicating calcareous soils, and no specimens whatever from the northerly calcareous areas noted above.

northward to central Newfoundland, the Magdalen Islands, southern New Brunswick, central Maine, New Hampshire, Vermont, New York, southeastern Ontario, Ohio (very local), Michigan and Wisconsin. Its thinnish, radical leaves are usually serrate and not fleshy; the inflorescence is a panicle made up of secund branches; the pedicels are very rarely up to 1 cm. long; the involucre is 3–5 mm. high; disk-florets 4–8. For the most part occupying very different areas, the two species meet at the borders of their ranges and there they often cross, just as do most other species of the genus when they commingle: the very distinct *S. caesia* crossing with such wholly different species as *S. flexicaulis, bicolor, rugosa* and *canadensis;* but the most striking case is *S. asperula* Desf., an almost inevitable hybrid wherever the ubiquitous *S. rugosa* of fresh soils closely approaches *S. sempervirens* of the salt-marshes and seashore. In brief, although the boreal *S. chrysolepis* will cross with the more austral *S. uniligulata,* the two species are, in the main, completely distinct.

Returning to the geographic varieties of *Solidago uliginosa,* I recognize the following:

a. Relatively stout, 0.6–1.5 m. high; cauline leaves 20–40, the upper ones oblong-lanceolate, the lower ones ovate-lanceolate to -oblong and 3–8 cm. broad; panicle elongate-pyramidal to ellipsoid, 1–4.5 dm. long and 0.3–2.5 dm. thick . . . . . *S. uliginosa,* var. *uliginosa.*

a. Slender, 2–9 dm. high; cauline leaves 5–20 (rarely –30), linear to lanceolate, the lower ones narrowly lanceolate to oblanceolate and 0.7–3 cm. broad . . . *b.*

b. Panicle elongate-pyramidal to cylindric-ellipsoid, commonly 1-sided, 0.2–2.5 dm. long, 1–10 cm. thick.
Branches of panicle and pedicels conspicuously hirtellous; plants of acid bogs and swamps . . . . . Var. *linoides.*
Branches of panicle and pedicels glabrous or glabrate and glutinous; chiefly of marly bogs and swamps . . . . . Var. *levipes.*

b. Panicles corymbiform to rhomboid or broadly pyramidal, 2.5–15 cm. broad, usually dense . . . . . Var. *terrae-novae.*

S. ULIGINOSA Nutt., var. ULIGINOSA (Nutt.) Cronquist in RHODORA, xlix. 73 (1947). *S. uliginosa* Nutt. in Journ. Acad. Nat. Sci. Philad. vii. 101 (1834). *S. neglecta* Torr. & Gray, Fl. N. Am. ii. 213 (1842); Gray, Syn. Fl. N. Am. i^2. 154 (1884). *S. uniligulata* (DC.) Porter, var. *neglecta* (Torr. & Gray) Fernald in RHODORA, xxiii. 292 (1922).—Acid swamps, meadows and moist to dryish thickets, Delaware and Maryland and upland of North Carolina (rare), north to Nova Scotia, southeastern and southern Maine, southern New Hampshire, southern Vermont, New York, Ohio, Lambton County, Ontario, southern Michigan and southern Wisconsin. Late July—early October.

The hybrid of *S. chrysolepis* and *S. uliginosa*, var. *uliginosa* (*S. neglecta*) is

× **S. Farwellii,** nom. nov. *S. neglecta*, var. *simulans* Farwell in Papers Mich. Acad. Sci. i. 100 (1923), not *S. simulans* Fernald in Rhodora, xxxviii. 305, plate 419, figs. 1–5 (1936).

Var. **linoides** (Torr. & Gray), comb. nov. ? *Bigelovia uniligulata* DC. Prodr. v. 329 (1836). *Chrysocoma uniligulata* (DC.) Nutt. in Trans. Am. Phil. Soc. n. s. vii. 325 (1840). *S. linoides* Torr. & Gray, Fl. N. Am. ii. 216 (1842) as to plant described from New Jersey and Massachusetts, not as to Solander specimen cited, Torrey & Gray also citing under *S. linoides* "Solidago uliginosa, partly, *Nutt.!*". *S. neglecta* Torr. & Gray, var. *linoides* (Torr. & Gray) Gray, Syn. Fl. N. Am. i². 154 (1884), Gray again noting it as "*S. uliginosa*, Nutt. . . . , in part, but not of his own herb. nor descr." *S. neglecta*, var. *uniligulata* (DC.) BSP. Prelim. Cat. N. Y. Pl. 26 (1888). *S. uniligulata* (DC.) Porter in Mem. Torr. Bot. Cl. v. 320 (1894). *S. humilis* Pursh, var. *peracuta* Fernald in Rhodora, xvii. 6 (1915). *S. uliginosa*, var. *peracuta* (Fernald) Friesner in Butl. Univ. Bot. Studies, iii. no. 1: 55 (1933).—Acid bogs and peats, New Jersey and eastern Pennsylvania, north to Exploits and Humber Valleys, Newfoundland, Magdalen Islands, southern New Brunswick, central Maine, New Hampshire, Vermont, New York, southern Ontario and southern Michigan. Type from Wading River, New Jersey, September, 1833, *Asa Gray* in Gray Herb.

Although Torrey & Gray, Gray (through five editions of the Manual), Porter, House and others, who really knew the two extremes, considered *S. uniligulata* or *S. linoides* a distinct species, altogether too many transitions occur between it and typical *S. uliginosa* in the southern half of their ranges. From Newfoundland to central Maine, where typical *S. uliginosa* is not found, there is no such trouble, but southward the sorting sometimes becomes a bit artificial. The type and only collection of *S. humilis*, var. *peracuta* is a very young specimen but its thin and serrate lower leaves are those of *S. uliginosa*, var. *linoides* (although in the young plant the cauline ones are still overlapping), the inflorescence is too young for definite pronouncement, but its short and very hispid pedicels and branches and the involucre are those of *S. uliginosa*, var. *linoides*.

Var. **levipes** (Fernald), comb. nov. *S. uniligulata*, var. *levipes* Fernald in Rhodora, xvii. 7 (1915). Marly bogs, swamps and shores, New York and southern Ontario.

House, Annot. List N. Y. State, 691 (1924), states that var. *levipes* "seems to include nearly all of the inland specimens of this species." Wiegand & Eames, Fl. Cayuga Lake Basin, 400 (1926) cite *S. uniligulata* (in their area the var. *levipes*) as "usually in marly soil." The plants have the narrow and serrate leaves as in *S. uliginosa*, var. *linoides* but the inflorescence is essentially glabrous as in *S. chrysolepis*. It may, when carefully checked, prove to be a persistent hybrid of the two.

Var. **terrae-novae** (Torr. & Gray), comb. nov. *S. Terrae-Novae* Torr. & Gray, Fl. N. Am. ii. 206 (1842); Gray, Syn. Fl. N. Am. i^2. 154 (1884). *S. uniligulata*, var. *terrae-novae* (Torr. & Gray) Fernald in Rhodora, xxiii. 292 (1922).—Peaty barrens, tundra, acid rock and damp thickets, southernmost Newfoundland, north to Trinity Bay and Bay St. George; Magdalen Islands; Cape Breton, Nova Scotia, to southern New Hampshire.

Although in its most typical development var. *terrae-novae* is very pronounced, it passes into var. *linoides;* and, although treating it as a distinct species, Asa Gray, in preparing the Synoptical Flora, marked the type of *S. terrae-novae* from *La Pylaie* as a variety of *S. neglecta* and then crossed out the new identification. Many later collections show that his impulse was the right one. The variety has the slender habit and reduction of leaves of var. *linoides*, but a broad panicle suggesting most extreme inflorescences of var. *uliginosa.*

The Genus Crepis.—Among large plant genera, *Crepis* is almost unique for the amount of genetic, cytological, and taxonomic study it has received, principally at the hands of Babcock and his associates. One hundred and thirteen of its 196 species have been cultivated and investigated cytologically and 55 of them have been employed in interspecific hybridization. The genus was originally selected as suitable for genetic experiment because of the low chromosome number of some of its species. It was soon discovered that taxonomic revision was necessary before new experimental evidence could be satisfactorily correlated, and Babcock was thus led to become a practising taxonomist. How ably he has played this role will be clear to any reader of the present publication.[1]

Since taxonomy is or should be one of the major synthesizing phases of biology, it is fitting that the phylogenetic conclusions from the author's three decades of study of the genus should be expressed in taxonomic form. This is truly a "biosystematic" treatment inasmuch as evidence from hybridization,

[1] Babcock, Ernest Brown. The Genus Crepis. Univ. Calif. Publ. Bot. vol. 21, pp. xii + 1–198, frontispiece, plate 1, figures 1–11, tables 1–12. 1947; vol. 22, pp. x + 199–1030, plates 2–36, figures 12–305, tables 13–19. 1947. Part I, paper, $3.50 cloth $4.00; part II, paper $10.00, cloth $12.00; both parts, paper $13.50, cloth $15.00.

chromosome pairing, and chromosome number and morphology has weighed heavily in preparation of the resultant classification. Taxonomists who have learned to look with a somewhat wary eye at products of the "newer taxonomy" will be relieved to learn that the systematic treatment "rests primarily on comparative morphology." Further, the author warns that in his opinion "crossability alone is of dubious value as an index to relationship," and that "the phylogenetic significance of chromosome number, size, and shape can be interpreted only in relation to or with aid of other criteria."

Physically, the paper consists of two volumes. The first contains a synopsis of the investigations of *Crepis* together with their taxonomically significant results, a discussion of the taxonomic concepts employed, an evaluation of the criteria—morphological, cytological, and genetic—regarded as important in indicating evolutionary relationship, and a carefully reasoned and plausibly argued reconstruction of the origin and development of the genus. The second volume is a handsomely illustrated systematic treatment with abundant distribution maps, full keys and descriptions, citations of more than 5,000 specimens in 85 herbaria, a list of exsiccatae, and photographs of types and other critical specimens. For each species is provided a beautifully prepared series of outline drawings showing habit, structural details of various organs, and, wherever possible, an ideograph of the somatic chromosomes. In place of the classical tri-sectional division of the genus, 27 more natural sections are recognized. Because taxonomic accounts are notoriously unexciting, most readers will probably glance at the second volume of "*Crepis*" with awed admiration, and then turn hastily to the more nearly narrative first part. They should not forget, however, that the supporting data are housed in volume II.

The work is notable for the generous acknowledgment of the assistance given by numerous contributors. Both volumes are dedicated to the late Harvey Monroe Hall, whose contagious championing of the "phylogenetic viewpoint" is credited with inspiring the genetic and cytogenetic attack on *Crepis*. An interesting contrast is provided by comparing the present monograph with Hall & Clements' "The Phylogenetic Method in Taxonomy"[2] Objectives of the two papers are ostensibly the same, but this one has profited by thirty years of careful investigation and the author's modesty, and is replete with the factual documentation so conspicuously lacking in its predecessor.

The reconstruction of the behavior of *Crepis* in time and space is impressive. Species with five or six pairs of chromosomes are more primitive than those with three or four. The bulk of the American species, with 11 pairs, are believed to have originated as a consequence of the crossing of Eurasian species with lower numbers; polyploidy and apomixis have been superimposed upon the original hybridizations. It is concluded that *Crepis*, a truly monophyletic genus, arose in the Altai-Tien Shan area of Central Asia by late Oligocene time, and spread outward along four major migrations routes. The well established Beringian is the only land-bridge postulated, and the theory of continental drift is not utilized. Speciation is thought to have occurred primarily as a result of gene mutations and alterations in chromosomal structure, with genetic or other isolating mechanisms permitting the development of new entities. Hybridization, polyploidy, and apomixis are assigned a subordinate evolutionary role. The careful selection of corroborative evidence from historical geology, paleobotany, and other fields and the scholarly imbrication of authority upon authority is a masterpiece of logical reasoning. It is to be hoped, however, that other monographers will not too hastily conclude that the history of the groups which interest them parallels that of *Crepis*, without taking into consideration the wealth of data which has gone into the formulation of the present picture. These data may be valid only for *Crepis*.

This work will take an honorable place among the first rank of taxonomic monographs. Because its approach to systematics is so broadly based, it

[2] Carnegie Institution of Washington Publication No. 326.

challenges taxonomists to search beyond their classical techniques for additional phylogenetic evidence. Taxonomy as a whole has profited greatly by Professor Babcock's labors. He has demonstrated simultaneously how much cytology and genetics have to offer to systematics, and the manner in which data from these fields can be made wholly palatable to taxonomists.—Lincoln Constance.

Crepis nana not yet known from Gaspé.—In Babcock's great study of The Genus Crepis, pt. ii. 542—Univ. Calif. Pub. Bot. xx. (1947) an eastern botanist reads with keen interest the statement that this tiny species with discontinuous range grows in Gaspé: "**Quebec**: Gaspé Pen. *fide* Fernald (Mem. Gray Herb. Harv. Univ. 2: 252, 1925". The present writer, surprised by the statement, checked the reference which occurs in the paragraph quoted below:

> Another region with which the Shickshocks and the Long Range occasionally share otherwise endemic species or isolated colonies of western plants is the Torngat Mountain area of northern Labrador. Thus, *Arenaria cylindrocarpa* Fernald (map 13) occurs on the Long Range, the Shickshocks, the Torngats and, more than 2000 miles (3200 km.) away, on the Rocky Mountains of Alberta. The plants of the Torngats, furthermore, show their own distinctive identities with cordilleran types. Thus, the sedge, *Carex filifolia* Nutt., is very characteristic of high plains and dry ridges from Yukon to Oregon, New Mexico and Saskatchewan but in the East it is unknown except upon the Torngats. Again, the little composite, *Crepis nana* Richardson (map 14), although originally described from an extreme northern station, at the head of Coppermine River (north of Great Slave Lake) and now known north of the Arctic Circle, is more generally known on the high mountains of the Cascade-Sierra Nevada axis to southern California and along the Rocky Mountains to Colorado. Eastward its only known stations are on the Torngats.

Map 14, on p. 253, shows a dot for the Torngats but none in the East south of there, although subsequently *Crepis nana* has been found near the Straits of Belle Isle in northern Newfoundland. It seems important to call attention to the error of citing the species from the Gaspé Peninsula, since such published statements, especially by famously cautious students, are rarely checked. Now *Crepis nana* must be found on limestone barrens of Gaspé!—M. L. Fernald.

A white-flowered Desmodium from Virginia.—In Shenandoah County, Virginia about one mile south of Elizabeth Furnace Forest Camp a white-flowered *Desmodium* has been blooming, in

season, for over six years. This *Desmodium* resembles most *Desmodium nudiflorum* (L.) DC. Its habitat, dry woods, is similar and, in this particular spot, the two grow side by side. The leaves are clustered at the top of a sterile stem, the flowers are borne on an ascending, leafless stalk about 60 cm. or less in height. The bracts are inconspicuous and deciduous. In contrast with *D. nudiflorum*, the flowers, as previously mentioned, are white, *D. nudiflorum*, f. *Dudleyi* (House) Fassett. Instead of the deeper purple color found at the base of the standard petal in *D. nudiflorum*, this white-flowered one has the base of the standard petal marked with deep green.—Lena Artz, Waterlick, Virginia.

Volume 49, no. 587, consisting of pages 257–288 was issued 7 November, 1947.

ERRATA

Page 98, line 17; *for* III *read* II, I.
Page 99, last line; *for* Epling *read* (Kearney) Small.
Page 164, last line; for *1949* read *1947*.
Page 185, line 35; *for* glangular *read* glandular.
Page 186, line 8; *for* fresh-savannas *read* fresh savannas.
Page 241, line 40; *for* HEBERRACHIS *read* HEBERHACHIS.
Page 259, line 11; *for* Walt. *read* (Walt.) Rydb.
Page 259, line 17; *for* L. *read* (L.) K. C. Gmel.
Page 260, line 38; *after* Holm *omit* period.
Page 266, line 35; *for* Forma *read* Var.
Page 268, line 29; *for* Monroe *read* Munro.

INDEX TO VOLUME 49

New scientific names are printed in full-face type

Abbe, E. C., The Genus Poa in Cook County, Minnesota, 1, pls. 1051, 1052
Abies, 83
Acacia julibrissin, 80
Aceraceae, 255
Achras, 289–292; bahamensis, 293; **emarginata, 292;** mammosa, 291; Sapota, 291; Zapota, 289–292; Zapotilla, var. parviflora, 292; zapotilla β. parvifolia, 292
Aconitum, 97; uncinatum, var. acutidens, 97
Actinospermum, 192
Additions to and Substractions from the Flora of Virginia, 85–115, 121–142, 145–159, 175–194, pls. 1056–1085
Adenocaulon bicolor, 207
Agropyron, 265; caninum, 265; pauciflorum, 265; pungens, 265; repens, 241, 265, f. aristatum, 265, f. pilosum, 265, f. trichorrhachis, 241, 265, var. subulatum, 241, 265, f. heberhachis, 241, 265, f. setiferum, 241, 265, f. Vaillantianum, 241, 265; tenerum, 265; trachycaulum, var. glaucum, 265, var. majus, 241, var. novae-angliae, 242, 265; trichophorum, 265
Agrostis, 270; alba, 109, 110, 270, f. aristata, 112, var. maritima, 270, var. vulgaris, 271; altissima, 89, 109–113, 271; antecedens, 271; borealis, 112; canina, 112, 240, 271; dispar, 109, 110; elata, 109, 110, 112; gigantea, 270; hyemalis, 109, 271, var. elata, 109; palustris, 270; perennans, 111, 112, 271, f. chaetophora, 112, var. aestivalis, 112, 271, f. atherophora, 112, var. elata, 109, 112, 271, perennans elata, 109; polymorpha, var. palustris, 270; scabra, 109, 271, f. Tuckermani, 240, 271; spica-venti, 270, var. palustris, 270; stolonifera, 270, f. aristigera, 270, var. aristata, 112, var. compacta, 270; tenuis, 240, 271, f. aristata, 271, var. pumila, 240, var. sylvatica, 240
Aira, 268; caryophyllea, 268
Alaska cedar, 228
Alcea, 152; floridana, 152; Floridana quinquecapsularis, etc., 152; florideana, 152
Alchemilla, 205; alpina, 249; foliis lobatis, etc., 205; vulgaris, var. filicaulis, 249
Alcohol in Plant Collecting, Use of, 207
Aletris aurea, 93, 99
Alisma cordifolia, 107, 108, The Identity of the Linnaean, 107; rostrata, 108
Alkali Grass, 264
Allium canadense, 24; vineale, 132, f. capsuliferum, 132, f. compactum, 132
Alnus, 229; serrulata, f. noveboracensis, 138, var. subelliptica, 138, f. mollescens, 138, f. nanella, 138
Aloe, 205; foliis erectis, etc., 205
Alopecurus, 271; agrestis, 271; aequalis, 272; geniculatus, 272, var. aristulatus, 272; myosuroides, 271; pratensis, 271
Amelanchier, 232; sp., 22
× Amelasorbus, 232
American Species of Iris, Two Eastern, 210
Ammophila, 270; arenaria, 270; breviligulata, 270
Anderson, W. A., Verbascum phlomoides in Iowa, 67, pl. 1055
Androcoma, 50
Andropogon Elliottii, var. gracilior, 124; scoparius, var. littoralis, 123
Anthoxanthum, 276; aristatum, 276; odoratum, 94, 276, f. giganteum, 94, 121; Puelii, 276
Antennaria, 254; neodioica, var. attenuata, 252; spathulata, 252
Anychia canadensis, 201; dichotoma, 201
Apera spica-venti, 270
Apples, 229
Aquifoliaceae, 255
Araliaceae, 255
Arbor Indica baccifera, etc., 152
Arbor Vitae, 143
Arenaria cylindrocarpa, 299
Arethusa, 134; medeoloides, 134–136; verticillata, 134, 135
Aristida, 274; dichotoma, 274;

gracilis, 275; longespica, var. geniculata, 275; oligantha, 275; purpurascens, 275; tuberculosa, 274
Aronia, 229–232; arbutifolia, 231; prunifolia, 231
Arrhenatherum, 269; elatius, 269, var. bulbosum, 269, f. **striatum, 269,** var. nodosum, f. striatum, 269
Arsène, Brother Louis, Plants new to the Flora of the Islands of Saint-Pierre et Miquelon, 237
Artz, Lena, White-flowered Desmodium from Virginia, 299
Asclepiadaceae, 288
Asclepias purpurascens, 202
Ash, white, 172
Asparagus, 205; caule herbaceo, etc., 205
Asperella Hystrix, var. Bigeloviana, 267
Aster, 142; Elliottii, 90; gracilis, 94; novi-belgii, 252; puniceus, var. firmus, 252; radula, 252, var. strictus, 252; Shortii, 199; spectabilis, var. suffultus, 189
Atragene americana, 220
Aureolaria grandiflora, var. pulchra, 202
Avena, 269; barbata, 269; fatua, 269; hirsuta, 269; hybrida, 269; orientalis, 269; sativa, 269

Baccharis glomeruliflora, 86, 189, 190, presumably not Virginian, 189; halimifolia, 190; sessiliflora, 189
Baeothryon, 51
Balduina, 86, 88; uniflora, 86, 192
Ball, Carleton R., Studying Willows or making new Sections in the Genus Salix, 37
Balsaminaceae, 255
Barley, 267
Bartonia paniculata, var. iodandra, 251, var. sabulonensis, 251; verna, 85, 176
Basis of the Name Carya Pecan, Inadequate, 194
Basket willow, 43
Bassia hirsuta, 164
Bay, 153; Loblolly, 151, 152; Red, 152, 153; Tan, 151
Beachflag Iris, 213
Beachgrass, 270
Bean, R. C., Reports on the Flora of Massachusetts—IV, 257
Benke, Herman C., 142
Bent Grass, 270
Bermuda Grass, 275
Betula Michauxii, 246; terrae-novae, 246
Betulaceae, 255
Bibliography and Phytogeography, Equisetum palustre, Example of careless, 278; of Scirpus, Unverified, 49
? Bigelovia uniligulata, 296
Bignoniaceae, 58
Binomial in Juncus, New, 120
Birch, black, 172
Black birch, 172; oak, 172; Oat Grass, 274; spruce, 83
Blackberry, 92
Blaspheme-vine, 90
Blepharolepis, 50
Bombacaceae, 58
Boraginaceae, 255
Botanical Specimens, Use of DDT in the Preparations of, 286
Botrychium, 254; dissectum, 200; lanceolatum, 238; Lunaria, 238; matricariaefolium, 238; minganense, 238
Bottle-brush Grass, 267
Bouteloua, 276; gracilis, 276; oligostachya, 276; radicosa, 276; rigidiseta, 276; texana, 276
Brachyelytrum 254, 274; erectum, 239, 274, var. septentrionale, 274
Brassica pe-tsui, 80
Briza, 262; maxima, 262; media, 262; minor, 262
Brome Grass, 257
Bromeliaceae, 288
Bromus, 257; altissimus, 258; brizaeformis, 258; catharticus, 257; ciliatus, 258, var. denudatus, 258, var. intonsus, 258; commutatus, 258; Dudleyi, 258; hordeaceus, 258, var. leptostachys, 258; inermis, 257; f. aristatus, 257; japonicus, 258, var. porrectus, 258; Kalmii, 258; latiglumis, 258; mollis, 258, f. leiostachys, 258; pratensis, 258; purgans, 258, f. laevivaginatus, 258; racemosus, 258; rigidus, 258, var. Gussonei, 259; rubens, 259; secalinus, 258; sterilis, 259; tectorum, 259; unioloides, 257; villosus, 258
Bulbostylis, 124
Butters, F. K., The Genus Poa in Cook County, Minnesota, 1, pls. 1051, 1052

Calamagrostis, 270; arenicola, 270;

canadensis, 270, var. Macouniana, 270; cinnoides, 270; epigejos, var. georgica, 270; inexpansa, var. robusta, 240; Macouniana, 270; Pickeringii, 270, var. debilis, 270
Callitrichaceae, 255
Callitriche heterophylla, 250
Calluna, 254; vulgaris, 250
Calocarpum Sapota, 291
Campanulaceae, 255
Canada Blue Grass, 262
Canary Grass, 276, Reed, 277
Canna indica, 134
Capparidaceae, 288
Caprifoliaceae, 255
Cardamine pratensis, 248
Carex, 82, 91; angustior, 243; arctata, 244; atlantica, 243; Barrattii, 93; Bebbii, 243; brunnescens, 243; var. sphaerostachya, 243; capillaris, 244; cephaloidea, 199, 200; chordorrhiza, 244; Collinsii, 89; conjuncta, 179; Crawfordii, 243, var. vigens, 243; crinita, var. brevicrinis, 127; Crus-corvi, 201; debilis, var. Rudgei, 127; decomposita, 127; diandra, 243; disperma, 243; filifolia, 299; flava, 82, 244; Frankii, 180; gravida, 200; gynocrates, 243; hormathodes, 95, 127, 243; Hostiana, 244, var. laurentiana, 244; interior, 243; laevivaginata, 201; lanuginosa, 244; lasiocarpa, var. americana, 244; lenticularis, 244; lepidocarpa, 244; leptonervia, 244; livida, 82; maritima, 244; mesochorea, 126; Michauxiana, 82; Mitchelliana, 95, 127; muricata, 243; normalis, 179; paleacea, f. erectiuscula, 244; panicea, 244; reniformis, 127; salina, 244, var. kattegatensis, 244; saxatilis, var. miliaris, 244, var. rhomalea, 245; scoparia, 243, f. condensa, 243, f. moliniformis, 243; scirpoidea, 246; tenera, 179; Vahlii, 82; vesicaria, var. Grahami, 245, var. laurentiana, 245
Carices, 254
Carphephorus tomentosus, var. Walteri, 98, 187
Carum, 254; bulbocastanum, 250; Carvi, 250
Carya cordiformis, 195; illinoensis, 194, 195; ovalis, var. hirsuta. 138; ovata, 195, var. ellipsoidalis, 195; Pecan, 194, 195, Inadequate Basis of the Name, 194
Caryophyllaceae, 255
Cassia, 288; nictitans, var. hebecarpa, 101, 149
Castilla, 58
Catabrosa, 254; aquatica, var. laurentiana, 240
Catskill Plants, Some Noteworthy, 53
Cattails, 202
Caulinia guadalupensis, 235
Ceanothus sanguineus, 207
Cedar, 153, in eastern Massachusetts, Distribution of Red, 172; Alaska, 228; incense, 228; Port Orford, 228; red, 172–174; western red, 228
Celtis occidentalis, 24
Centaurea calcitrapa, 84; cyanus, 84; jacea, 84; maculosa, 84, in Illinois, 84; nigra, 84; solstitialis, 84; vochinensis, 84
Centaureas, 84
Cephalanthus, 86; angustifolius, 182; occidentalis, 102, 181, 182, f. **lanceolatus, 181,** 182, var. angustifolius, 182, var. salicifolius, 181; salicifolius, 181
Cerastium arvense, 247
Chamaecyparis, 153; Lawsoniana, 228; nootkatensis, 228; thyoides, 83
Chamitea, 38
Chelone obliqua, 96, 180
Chenopodiaceae, 255
Chestnut, Water, 171
Chinese Pear, 231
Chloris, 276; elegans, 276; virgata, 276
Chrysocoma uniligulata, 296
Chrysogonum virginianum, 180
Chrysopsis mariana, f. efulgens, 187; nervosa, var. stenolepis, 187
Chrysosplenium, with special Reference to the Taxonomic Status and Distribution of C. iowense, Studies in, 25, pls. 1053, 1054; alternifolium, 25, 27, 28, 31–34; iowense, 25–31, 33–36, pls. 1053, 1054, Studies in Chrysosplenium, with special Reference to the Taxonomic Status and Distribution of, 25, pls. 1053, 1054; tetrandrum, 25–34, 36, pls. 1053, 1054
Cinchona, 208
Cinna, 271; arundinacea, 271; latifolia, 271

Cirsium lanceolatum, 253; palustre, 253
Cistaceae, 255
Cladium jamaicense, 90; mariscoides, 100, 126
Clausen, Robert T., Najas Muenscheri and other Species of Najas in eastern Virginia, 233
Clematis from the Peaks of Otter, New, 219; ochroleuca, 180; verticillaris, 220, var. **cacuminis, 219**
Clethra alnifolia, 22
Clinopodium, 251
Clusia, 58
Cochlearia danica, 248
Cockspur Grass, 200
Collecting, Use of Alcohol in Plant, 207; Use of Formaldehyde in Plant, 54
Compositae, 90, 142, 254, 255, 288; of Northeastern United States, IV. Solidago, Notes on, 69
Composite, 299
Conifers, 228, 229
Constance, Lincoln, The Genus Crepis (Review), 297
Contributions from the Gray Herbarium of Harvard University—No. CLXIII. Additions to and Subtractions from the Flora of Virginia, 85–115, 121–142, 145–159, 175–194, pls. 1056–1085
Convallaria, 137
Convolvulaceae, 58, 255
Convolvulus soldanella, 80
Cook County, Minnesota, The Genus Poa in, 1, pls. 1051, 1052
Coral-berry (Symphoricarpos orbiculatus), Notes on the, 117
Coral-root, 201
Corallorhiza odontorhiza, 201
Cordgrass, 275
Cordia macrophylla, 152
Coreopsis oniscicarpa, 99
Cornaceae, 255
Cornucopiae altissima, 109–111, 113, Identity of, 109; hyemalis, 113; perennans, 109, 110, 113
Cornus paniculata, 23; racemosa, 23, 24, in Quebec, 23; rugosa, 216, f. **eucycla, 216**
Coronopus, 254; didymus, 248
Cory, V. L., New Dyssodia from Texas, 161; Petalostemum oreophilum a Species of Dalea, 163
Corydalis flavula, 179
Corynephorus, 269; canescens, 269
Couch Grass, 265
Couma, 58
Crassulaceae, 255
Crataegus, 144; sorbifolia, 232
Crepis, 297, 298; (Review), The Genus, 297; nana, 299, not yet known from Gaspé, 299
Cronquist, Arthur, Notes on Compositae of Northeastern United States, IV. Soildago, 69
Crotalaria, 99; laevigata, 149; Purshii, 149, 193, pl. 1075, var. **bracteolifera, 149,** 193, **pl. 1075;** spectabilis, 149
Cruciferae, 255, 288
Cryptogramma stelleri, 53
Ctenium aromaticum, 99, 121
Cucurbitaceae, 58
Currant, 219; European Black, 219
Cutgrass, Rice, 277
Cynodon, 275; dactylon, 275
Cynosurus, 264; cristatus, 264
Cyperaceae, 51, 254, 255
Cyperus rivularis, f. elutus, 124
Cypripedium acaule, 246, 254; hirsutum, 253; parviflorum, 246; spectabile, 246, 253
Cystopteris fragilis, var. protrusa, 199

Dactylis, 264; cynosuroides, 113; glomerata, 264, var. ciliata, 264, var. detonsa, 108, 264, var. multiflora, 108; patens, 114
Dactyloctenium, 275; aegyptium, 275
Dalea, 163, 164; Petalostemum oreophilum a Species of, 163; alopecuroides, 164; leporina, 164; **oreophila, 164**
Danthonia, 269; Alleni, 269; compressa, 269, 270; spicata, 269, var. longipila, 269
Daphne mezereum, 80
Darlington Oak, 102
Dasystephana parvifolia, 176
DDT in the Preparation of Botanical Specimens, Use of, 286
Delaware and the Eastern Shore (notice), Flora of, 164
Deschampsia, 268; caespitosa, 268, cespitosa, var. glauca, 268, var. parviflora, 268; elongata, 268; flexuosa, 268
Desmodium, 89, 96, 97, 299, 300; from Virginia, White-flowered, 299; lineatum, 96; nudiflorum, 96, 300, f. Dudleyi, 300; paniculatum, 96; pauciflorum, 97; tenuifolium, 97, 99; viridiflorum, 96
Dewberry, 92

Deyeuxia Macouniana, 270
Diapensiaceae, 255
Dichromena colorata, 90; latifolia, 86, 88, 124, in Virginia?, Is, 124
Digitalis, 254; purpurea, 251
Dilly of Florida, Name of the Wild, 289; wild, 289, 290, 292, 293
Diodia teres, var. hystricina, 101, 181
Diplachne, 262; maritima, 263, 275; uninervia, 262
Distichlis, 264; spicata, 264
Distribution of Chrysosplenium iowense, Studies in Chrysosplenium, with special Reference to the Taxonomic Status and, 25, pls. 1053, 1054
Distribution of Red Cedar in eastern Massachusetts, 172
Does Gordonia grow in Virginia?, 151
Dogtail, 264
Draba, 254; incana, 248
Drop-seed, 273
Drosera capillaris, 86
Droseraceae, 255
Dryas, 154; tenella, 153
Drying Plants, Notes on, 220
Dryopteris celsa, 95, 104; cristata, var. Clintoniana, 104; Filix-mas, 104; fragrans, 53, var. remotiuscula, 53; fragrans remotiuscula, 53; Goldiana, 104; Thelypteris, var. pubescens, f. suaveolens, 103
Dulichium, 254; arundinaceum, 242
Dyssodia from Texas, New, 161; **texana, 162;** Hartwegii, 162; Treculii, 162

Eastern American Species of Iris, Two, 210; Shore (notice), Flora of Delaware and the, 164
Eaton, Richard J., Lemna minor as an aggressive Weed in the Sudbury River, 165
Echinochloa, 123; Crus-galli, 200, var. longiseta, 200; crusgalli, 123; echinata, 123; pungens, var. ludoviciana, 123; setigera, 123; stagnina, 101, 122, 123; Walteri, 200
Echinodorus cordifolius, 107, 108, f. lanceolatus, 108, var. lanceolatus, 108; radicans, 107, 108; rostratus, 108, f. **lanceolatus, 108,** var. lanceolatus, 108
Elaeocarpaceae, 292
Elatinaceae, 254, 255
Elatine, 254; minima, 250
Eleocharis, 100, 101; acicularis, 82, 242; ambigens, 66; arenicola, 66; calva, 61, 64, 67; capitata, 66, var. borealis, 242; compressa, 66; elliptica, 242; fallax, 61, 66; flavescens, 100, 124; halophila, 61, 64, 67, 242; kamtschatica, 61, 66; macrostachya, 61, 63–65, 67; mamillata, 62, 63; nervosa, 66; nitida, 81, 82, in the Lake Superior Region, Occurrence of, 81; obtusa, var. ellipsoidalis, 91; olivacea, 100; palustris, 61–66, in North America, Group of, 61, var. major, 242, var. Watsoni, 66; prolifera, 124; radicans, 90; Smallii, 61–67; tenuis, 66; tricostata, 101, 124; uniglumis, 62, 63, 65, 66; vivipara, 96, 100, 124
Eleogiton, 51
Eleusine, 275; indica, 275
Elymus, 266; arenarius, 266, var. villosus, 266; brachystachys, 266; canadensis, 266, f. glaucifolius, 266; mollis, 266; riparius, 266; robustus, 266, var. vestitus, 266; striatus, 266; villosus, 266, f. arkansanus, 266; virginicus, 266, f. hirsutiglumis, 266, f. jejunus, 266, var. glabriflorus, 266, f. australis, 266, var. halophilus, 266, var. jejunus, 300, var. submuticus, 266; Wiegandii, 266, f. calvescens, 266
Empetraceae, 255
Empetrum, 251
Epilobium leptophyllum, 250; rosmarinifolium, 250
Epipactis Helleborine, 60, in New Hampshire, New Station for, 60
Equisetaceae, 255
Equisetum arvense, 203, f. campestre, 284; Braunii, 206; corymbosum, 280, 284, var. casuarinaeforme, 284, var. polystachium, 284; fluviatile, 203; majus, 203; maximum, 203, 204; palustre, 278–285, Example of careless Bibliography and Phytogeography, 278, f. arcuatum, 282–284, f. filiforme, 282, 285, f. fluitans, 282, 284, f. nanum, 286, f. nigridens, 282, 283, f. polystachion, 281, 282, 284, f. polystachyon, 281, 284, f. ramulosa, 285, f. ramulosum, 282, 284, 285, f. simplex, 282, 285, f. simplicissima, 285, f. tenue, 285, f. verticillatum, 282–284, var. americanum, 281, 282, 284, 285, f.

fluitans, 284, f. luxurians, 281, 283, 284, f. nigridens, 283, f. ramosissimum, 285, f. tenue, 281, 285, 4. arcuatum, 283, var., arcuatum, 283, brevioribus setis, 283, B. Equisetum minus polystachion, 280, β. Equisetum palustre minus polystachyon, 279, 284, var. nanum, 286, var. nigridens, 283, (B) polystachion, 280, 284, var. "Polystachium," 280, var. polystachium, 280, f. corymbosa, 280, f. racemosa, 280, var. "polystachyum", 280, var. polystachyum, 280, 7. polystachyum, 284, f. corymbosa, 284, f. racemosa, 284, var. ramosissimum, 281, 284, 285, 5. ramulosum, 285, var. ramulosum, 285, var. simplicissimum, 285, var. tenue, 281, 285, f. verticillata, f. breviramosa, 283, f. longiramosa, 283, f. verticillatum, f. a. breviramosum, 282, 283, f. b. longeramosum, 283; setis simplicibus, etc., 283; sylvaticum, 282; Telmateia, 203, 204, 206, 207, North American Variety of, 203, var. Braunii, 206, 207

Eragrostis, 263; capillaris, 263; cilianensis, 263; Frankii, 263; hirsuta, 263; hypnoides, 263; intermedia, 263; major, 263; megastachya, 263; minor, 263; multicaulis, 263; pectinacea, 263, 264, var. spectabilis, 263; peregrina, 263; pilosa, 263; poaeoides, 263; Purshii, 263; spectabilis, 263, var. sparsihirsuta, 264

Ericaceae, 255, 288

Erigeron canadensis, 68, pl. 1055; philadelphicus, 189, var. **scaturicola, 189**; scaturicola, 189

Eriocaulaceae, 255; decangulare, 87, 127; flavidulum, 128, 129; Parkeri, 128, 129

Eriophorum, 50, subgen. Trichophorum, 50; sect. Trichophorum, 51; alpinum, 50, 51; cyperinum, 50; gracile, 243; Scheuchzeri, 242; tenellum, 243; viridi-carinatum, 242

Eryngium prostratum, var. disjunctum, 92

Erythronium, 137

Eupatorium, 101, 254; cordigerum, 89; leucolepis, 101; maculatum, 252; recurvans, 101, 186

Euphorbia humistrata, 150

Euphorbiaceae, 255

Euphrasia Randii, 251

European Black Currant, 219

Example of careless Bibliography and Phytogeography, Equisetum palustre, 278

Exit Syngonanthus flavidulus, 128

Fassett, N. C., Penstemon gracilis, var. wisconsinensis, 293

Feather Grass, 274

Fern, Hay-scented, 104

Fernald, M. L., Contributions from the Gray Herbarium of Harvard University—No. CLXIII. Additions to and Subtractions from the Flora of Virginia, 85–115, 121–142, 145–159, 175–194, pls. 1056–1085; Crepis nana not yet known from Gaspé, 299; Equisetum palustre, Example of careless Bibliography and Phytogeography, 278; Flora of Delaware and the Eastern Shore (notice), 164; Flora of Kalamazoo County, (Review), 143; Fruits of Trees (Review), 83; Inadequate Basis of the Name Carya Pecan, 194; Itea virginica, forma abbreviata, 22; Minor Transfers in Pyrus, 229; New Clematis from the Peaks of Otter, 219; North American Variety of Equisetum Telmateia, 203; Salicornia europaea, var. simplex, 23; Sedum Rosea, not S. roseum, 79; Two Eastern American Species of Iris, 210; Two new Forms, 216; Unverified Bibliography of Scirpus, 49; Varieties of Solidago uliginosa, 294

Fescue Grass, 259

Festuca, 259; capillata, 260; elatior, 259; nutans, 259; obtusa, 259; ovina, 260, f. hispidula, 260, var. capillata, 260, var. duriuscula, 260, var. hispidula, 260; paradoxa, 180; prolifera, 260; rubra, 259, f. megastachys, 259, f. squarrosa, 259, var. commutata, 259, var. juncea, 259, var. multiflora, 259, var. subvillosa, 259, var. vivipara, 259

Ficus, 58

Fimbristylis, 124

Firs, 228

Flora of Delaware and the Eastern Shore (notice), 164; of Kalamazoo County (Review), 143; of Massa-

chusetts—IV, Reports on the, 257; of Virginia, Additions to and Subtractions from the, 85–115, 121–142, 145–159, 175–194, pls. 1056–1085; of the Islands of Saint-Pierre et Miquelon, Plants new to the, 237; of the Region, New Variety of Sedum Rosea from Southeastern Minnesota and additional Notes on the, 197, pl. 1086
Florida, Name of the Wild Dilly of, 289
Form of Helianthus from Minnesota, New, 21
Formaldehyde in Plant Collecting, Use of, 54
Forms, Two new, 216
Foster, H. Lincoln, Rhododendron carolinianum naturalized in New England, 116
Fothergilla, 92; parvifolia, 22, 92
Fowl Meadow Grass, 261
Foxtail, 271; Meadow, 271
Frankenia pulverulenta, 248
Fraxinus americana, 158, 159, var. **biltmoreana, 159;** biltmoreana, 159; caroliniana, 22, 91, 102, 159, *β.* F. latifolia, 159; expansa, 159; juglandifolia, 159, *β.* subintegerrima, 159; lanceolata, 159; pennsylvanica, var. lanceolata, 159, var. **subintegerrima, 159;** pubescens, *subpubescens, 159, *δ.* subpubescens, 159; viridis, 159
Frostweed, 144
Fruits of Trees (Review), 83
Fumariaceae, 255

Galium, 89, 100, 155; Claytoni, 100, 180; hispidulum, 101; labradoricum, 180; obtusum, 180, var. filifolium, 180, 181; saxatile, 252; tinctorium, 87, 100, 180, 181, var. filifolium, 180, var. floridanum, 100, 180, 181, var. labradoricum, 180; trifidum, 87, 155, 181, 252; verum, 252
Gastridium, 272; australe, 272; ventricosum, 272
Gentiana, 175; acuta, 251; Catesbaei, 86, 175, 176, 193, pls. 1078, 1079, var. **nummulariaefolia, 175,** 193, **pl. 1078;** Elliottii, 176, var. parvifolia, 176; parvifolia, 176; Porphyrio, 99; Saponaria, 175, 176; villosa, 176
Gentianaceae, 255
Genus Crepis (Review), The, 297; Poa in Cook County, Minnesota, The, 1, pls. 1051, 1052
Geographic Varieties of Lobelia puberula, The, 182
Geraniaceae, 255
Giant Horsetail, 203
Glaux, 254; maritima, var. obtusifolia, 251
Glyceria, 261; acutiflora, 261; borealis, 261; canadensis, 261; distans, f. tenuis, 260, var. angustifolia, 260, var. tenuis, 260; Fernaldii, 261; fluitans, 115, 241, 261; grandis, 241, 261; laxa, 261; melicaria, 261; neogaea, 261; nervata, 261; obtusa, 261; pallida, 261; septentrionalis, 115, 261; striata, 261, var. stricta, 261; Torreyana, 261
Gnaphalium sylvaticum, 252
Goldenrod, 93
Golden Saxifrage, 26
Goodale, A. S., Reports on the Flora of Massachusetts—IV, 257
Goosegrass, 275
Gordonia, 86, 151–154, grow in Virginia?, Does, 151; Lasianthus, 151, 152
Grama, 276
Gramineae, 115, 123, 254, 255, 257
Grass, Alkali, 264; Bent, 270; Bermuda, 275; Black Oat, 274; Brome, 257; Canada Blue, 262; Canary, 276; Cockspur, 200; Couch, 265; Feather, 274; Fescue, 259; Fowl Meadow, 261; Hair, 273; Herd's, 272; June, 262; Kentucky Blue, 262; Manna, 261; Meadow, 262; Oat, 269; Orchard, 264; Quaking, 262; Quitch, 265; Rattlesnake, 261; Reed Canary, 277; Reed Meadow, 261; Ribbon, 277; Sand, 265; Spear, 262; Spike, 264; Vanilla, 276; Velvet, 269
Grass Family, 257
Grasses, 257
Grigg, F. W., Reports on the Flora of Massachusetts—IV, 257
Group of Eleocharis palustris in North America, 61

Habeeb, Herbert, Vicia Sepium in New Brunswick, 288
Habenaria, 203; repens, 202
Hair Grass, 273
Hairgrass, 268
Haloragidaceae, 255
Hancornia, 58
Harperella vivipara, 157

Harris, S. K., Reports on the Flora of Massachusetts—IV, 257
Hay-scented Fern, 104
Heleochloa, 273; schoenoides, 273
Helianthemum canadense, 144
Helianthus, 116, 191, from Minnesota, New Form of, 21; angustifolius, 190, 191, 193, pl. 1084; var. **planifolius, 190,** 194, **pl. 1083;** atrorubens, var. alsodes, 191; divaricatus, var. angustifolius, 191; floridanus, 190, 191, 194, pl. 1085; giganteus, 21, var. subtuberosus, 21, f. **verticillatus, 21;** grosseserratus, 116, in New England, 115; heterophyllus, 191; mollis, 191, var. cordatus, 191; Schweinitzii, 190; tracheliifolius, 192
Hemerocallis, 137
Hemlock, 161
Hepatica acutiloba, f. **plena, 216**
Herd's Grass, 272
Hevea, 58
Hexalectris, 96; spicata, 138, 180
"Hickery", Illinois, 194; Pig-nut, 194–196; white, 195
Hicoria Pecan, 194
Hickories, 195
Hicorius Pecan, 194
Hickory, 172
Hieracia, 253
Hieracium aurantiacum, 253; floribundum, 253; Pilosella, 253
Hierochloë, 276; odorata, 276
Hodge, W. H., Use of Alcohol in Plant Collecting, 207
Holcus, 269; lanatus, 269
Holoschoenus, 52
Honeysuckle, Japanese, 150
Hordeum, 254, 267; distichon, 267; jubatum, 242, 267; marinum, 267; maritimum, 267; murinum, 267; nodosum, 267; vulgare, 267
Horsetail, Giant, 203
Houstonia tenuifolia, 180
Howard, Richard A., Use of DDT in the Preparation of Botanical Specimens, 286
Hull, Edwin D., Notes on the Coralberry (Symphoricarpos orbiculatus), 117; Penstemon gracilis in Indiana, 256
Hydrastis, 199; canadensis, 199
Hypericaceae, 255
Hypericum, 87, 89, 100, 152; § Brathys, 87; boreale, 87, 100, 101, 154, 250; canadense, 87, 155, var. **galiiforme, 154,** 155, 193, **pl. 1076;** dissimulatum, 87, 155; Lasianthus, 151; majus, 87; mutilum, 87; setosum, 99, 154
Hypoxis micrantha, 99, 133
Hystrix, 267; patula, 267, var. Bigeloviana, 267

Identity of Cornucopiae altissima, The, 109; of Isotria medeoloides, The, 134; of the Linnaean Alisma cordifolia, The, 107
Ilex, 204
Illinois, Centaurea maculosa in, 84; "Hickery", 194
Inadequate Basis of the Name Carya Pecan, 194
Incense cedar, 228
Indiana, Penstemon gracilis in, 256
Iowa, Verbascum phlomoides in, 67, pl. 1055
Iridaceae, 255, 288
Iris, Beachflag, 213; Two Eastern American Species of, 210; canadensis, 213; Hookeri, 210–214; f. **pallidiflora, 210,** f. **zonalis, 210;** prismatica, 92, 133, 134, var. **austrina, 133,** 134; setosa, 211–213, var. canadensis, 211, 213, f. pallidiflora, 210, f. zonalis, 210; tridentata, 213; tripetala, 213; verna, 214, 215, var. **Smalliana, 214;** versicolor, 212
Is Dichromena latifolia in Virginia?, 124; Mayaca in the "Manual Range"?, 130
Islands of Saint-Pierre et Miquelon, Plants new to the Flora of the, 237
Isoetaceae, 254, 255
Isoetes, 254; Braunii, 239; macrospora, 238
Isolepis, 51
Isotria affinis, 135, 136; medeoloides, 134, 136, The Identity of, 134; verticillata, 135, 136
Itea, 22; virginica, 22, 92, forma abbreviata, 22, f. **abbreviata, 22,** 23, 92, 142

Japanese Honeysuckle, 150
Jatropha manihot, 80
Jeffersonia, 199, and Some Other Local Plants of Southeastern Minnesota, 198; diphylla, 198
Jones, George Neville, Centaurea maculosa in Illinois, 84
Juglans alba minima, 195; illinoensis, 194, 195; Pecan, 194, 195
Juncaceae, 254, 255

Juncaginaceae, 255
Juncus, 82, 100, 120, New Binomial in, 120; acutiflorus, 246; alpinus, var. insignis × brevicaudatus, 120, var. rariflorus, 120; articulatus, var. obtusatus, 246, var. stolonifer, 246; brevicaudatus, 245; bulbosus, var. fluitans, 245; canadensis, f. conglobatus, 131, var. euroauster, 101, 132, var. sparsiflorus, 245; effusus, var. conglomeratus, 245, var. Pylaei, 245, var. solutus, 245; Gerardi, 245, 276; × **gracilescens, 120**; megacephalus, 90; militaris, 246; pelocarpus, 245; polycephalus, 86, 130, 131, var. **schizocephalus, 131**; scirpoides, 131, var. meridionalis, 130, 131, var. polycephalus, 131; tenuis, 245; trifidus, 245; validus, 131
June Grass, 262
Juniper, 153, western, 228
Juniperus occidentalis, 228; virginiana, 83, var. crebra, 172
Justicia americana, 24

Kalamazoo County (Review), Flora of, 143
Kalmia hirsuta, 86, 158, Virginian Occurrence of, 158
Kentucky Blue Grass, 262
Knapweed, spotted, 84
Knowlton, C. H., Reports on the Flora of Massachusetts—IV, 257
Known from Gaspé, Crepis nana not yet, 299
Kucyniak, James, Cornus racemosa in Quebec, 23
Kudzu-vine, 150

Labiatae, 255
Lachnocaulon anceps, 99, 128
Lactuca, 254; spicata, 253
Lake Superior Region, Occurrence of Eleocharis nitida in the, 81
Lakela, Olga, New Form of Helianthus from Minnesota, 21; Occurrence of Eleocharis nitida in the Lake Superior Region, 81; Variety of a Western Polemonium in Minnesota, 118
Lathyrus, 196; maritimus, 196; venosus, 180
Laurel, 161
Laurus, 204
Lechea maritima, [var. virginica, 101, 155
Lecythidaceae, 58
Leersia, 277; lenticularis, 201; oryzoides, 277, f. glabra, 277, f. inclusa, 277; virginica, 277, var. ovata, 277
Leguminosae, 58, 255, 288
Lemna, 165–167, 169–171; minor, 165, 166, 169–171, as an aggressive Weed in the Sudbury River, 165; valdiviana, 127, var. abbreviata, 127
Lemnaceae, 171, 255
Lentibulariaceae, 255
Leopold, A. C., Distribution of Red Cedar in eastern Massachusetts, 172
Leptochloa, 262, 275; fascicularis, 263, 275; filiformis, 275; imbricata, 262
Leucothoë racemosa, 23
Liatris, 186; elegans, 187; graminifolia, var. dubia, 187, var. Smallii, 187, var. typica, 187; regiomontanis, 187; scariosa, var. typica, 187, var. virginiana, 187; spicata, f. montana, 186, var. resinosa, 98, 186, var. typica, 186; squarrosa, var. typica, 187; turgida, 187
Libocedrus decurrens, 228
Lilaeopsis carolinensis, 90
Lilia, 137
Liliaceae, 255, 288
Lilium, 137; Michauxii, 133
Limnetis cynosuroides, 115; juncea, 114, 115, var. monogyna, 114, 115
Linaria, 254; repens, 251; vulgaris, 251
Linnaean Alisma cordifolia, The Identity of the, 107
Liparis, 137; lilifolia, 137, not L. liliifolia, 137; liliifolia, 137
Liriodendron, 83
Litsea, 86
Little, Elbert L., Jr., Name of the Wild Dilly of Florida, 289
Littorella americana, 251
Lobelia elongata, 90, 185, 186; georgiana, 89; glandulifera, 89; glandulosa, 185, 186, β. glabra, 186, var. glabra, 186, var. **laevicalyx, 186**, γ. obtusifolia, 184; puberula, 182–186, The Geographic Varieties of, 182; β. glabella, 184, var. glabella, 184, 185, var. laeviuscula, 184, var. mineolana, 186, var. **obtusifolia, 184**, var. **simulans, 184**; spicata, 184
Lobeliaceae, 255, 288
Loblolly Bay, 151, 152; Tree, 152

Lolium, 267; multiflorum, 267, var. diminutum, 267; perenne, 267; temulentum, 267, var. leptochaeton, 267
Lomatogonium rotatum, 154
Loranthaceae, 58
Lotus, 254; corniculatus, 250
Ludwigia, 99; alata, 90, 156; brevipes, 92, 100, 156; hirtella, 99: pilosa, 99, 156; virgata, 99, 155
Lupinus perennis, var. occidentalis, 249
Luzula spicata, 246
Lycopodiaceae, 255
Lycopodium, 88; complanatum, var. canadense, 238, var. flabelliforme, 105, f. **brachypodum, 105;** inundatum, var. Bigelovii, 88, 130; selago, 53
Lycopus europaeus, 177, var. mollis, 177, 178
Lyonia ligustrina, 100, 158, f. **nanella, 158,** 193, **pl. 1077,** var. salicifolia, 158

Magnolia virginiana, 153
Making new Sections in the Genus Salix, Studying Willows or, 37
Malaxis Bayardi, 94; lilifolia, 137, 138; liliifolia, 137
Malus, 229–232; § Docyniopsis, 231, § Eriolobus, 231; baccata, 230; coronaria, 232, var. dasycalyx, 232; Halliana, 231; lancifolia, 232
Malvaceae, 288
Manilkara, 289, 290, 292; bahamensis, 290, 293; emarginata, 293, subsp. typica, 293; jaimiqui, subsp. emarginata, 293; parvifolia, 293; Zapodilla, 290
Manna Grass, 261
Manual Range, Potamogeton tennesseensis new to the, 255
"Manual Range"?, Is Mayaca in the, 130
Manual-range and Southeastern Plants, Mexican Station for three, 202
Maple, red, 172; sugar, 172
Massachusetts, Distribution of Red Cedar in eastern, 172; — IV, Reports on the Flora of, 257
Matricaria suaveolens, 252
Mayaca, 88, 130, in the "Manual Range"?, Is, 130; Aubleti, 86, 130; fluviatilis, 88, 130
Meadow Foxtail, 271; Grass, 262
Medicago, 254; lupulina, 250
Melastomaceae, 58, 288
Melica diffusa, 200; nitens, 200; striata, 264
Melilotus alba, 250
Menispermum canadense, 24
Mespilus sorbifolia, 232
Mexican Station for three Manual-range and Southeastern Plants, 202
Mibora, 271; minima, 271
Milium, 274; effusum, 199, 274
Mimulus, 254; moschatus, 251
Mimusops, 289, 292; bahamensis, 293; depressa, 293; emarginata, 289, 293; floridana, 293; parviflora, 293; parvifolia, 289, 293; Sieberi, 292, 293
Minnesota and additional Notes on the Flora of the Region, New Variety of Sedum Rosea from Southeastern, 197, pl. 1086; New Form of Helianthus from, 21; The Genus Poa in Cook County, 1, pls. 1051, 1052; Variety of a Western Polemonium in, 118
Minor Transfers in Pyrus, 229
Molinia, 254, 264; caerulea, 240, 264
Monotropa Hypopitys, 250
Moore, H. E. Jr., Mexican Station for three Manual-range and Southeastern Plants, 202
Moore, J. W., New Variety of Sedum Rosea from Southeastern Minnesota and additional Notes on the Flora of the Region, 197, pl. 1086
Mountain-Ash, 231
Muhlenbergia, 254, 272; capillaris, 273; foliosa, 273; frondosa, 273, f. commutata, 273; glomerata, 272, var. cinnoides, 239, 272; mexicana, 273, f. ambigua, 273; racemosa, 272; Schreberi, 273; setosa, 272; sobolifera, 272; sylvatica, 273, f. attenuata, 273, var. robusta, 273; tenuiflora, 272; uniflora, 272, var. terrae-novae, 239, 245
Mullein, 67
Myosotis scorpioides, 251
Myrica heterophylla, 22
Myricaceae, 255
Myriophyllum exalbescens, 250; spicatum, 250

Naiadaceae, 255
Najas, 105, 233–235, in eastern Virginia, Najas Muenscheri and other Species of, 233; flexilis, 105,

106, 233–236; gracillima, 106, 233–236; guadalupensis, 106, 233–236; indica, 236, var. gracillima, 236; microdon, 235; Muenscheri, 233–236, and other Species of Najas in eastern Virginia, 233
Name Carya Pecan, Inadequate Basis of the, 194; of the Wild Dilly of Florida, 289
Nemocharis, 50
New Binomial in Juncus, 120; Clematis from the Peaks of Otter, 219; Dyssodia from Texas, 161; Form of Helianthus from Minnesota, 21; Station for Epipactis Helleborine in New Hampshire, 60; Variety of Sedum Rosea from Southeastern Minnesota and additional Notes on the Flora of the Region, 197, pl. 1086
New Brunswick, Vicia Sepium in, 288
New England, Helianthus grosseserratus in, 115; Rhododendron carolinianum naturalized in, 116
New Hampshire, New Station for Epipactis Helleborine in, 60
Nimble Will, 273
North America, Group of Eleocharis palustris in, 61
North American Variety of Equisetum Telmateia, 203
Northeastern United States, IV. Solidago, Notes on Compositae of, 69
Not yet known from Gaspé, Crepis nana, 299
Notes on Compositae of Northeastern United States, IV. Solidago, 69; on Drying Plants, 220; on the Coral-berry (Symphoricarpos orbiculatus), 117; on the Flora of the Region, New Variety of Sedum Rosea from Southeastern Minnesota and additional, 197, pl. 1086
Noteworthy Catskill Plants, Some, 53
Nymphaea, 171; odorata, 141, 142, 171, var. gigantea, 141, 142, var. minor, 141, var. **stenopetala, 141,** 142, 193, **pls. 1061–1063**
Nymphaeaceae, 255

Oak, black, 172; Darlington, 102; red, 172; white, 172
Oat Grass, 269, Black, 274
Oatgrass, 269
Oats, 269
Occurrence of Eleocharis nitida in the Lake Superior Region, 81; of Kalmia hirsuta, Virginian, 158
Oconee Bells, 160
Oenothera humifusa, 101
Ogden, E. C., Potamogeton tennesseensis new to the Manual Range, 255
Onagraceae, 255, 288
Ophioglossaceae, 254, 255
Ophrys lilifolia, 137, 138; liliifolia, 137; linifolia, 137
Orchard Grass, 264
Orchidaceae, 255, 288
Orchids, 58
Orobanchaceae, 255
Oryzopsis, 274; asperifolia, 274; canadensis, 274; pungens, 274; racemosa, 274
Osmunda regalis, 238, var. spectabilis, 238
Osmundaceae, 255
Oxalidaceae, 255
Oxycaryum, 49, 50; Schomburgkianum, 49
Oxypolis Canbyi, 157, 158; filiformis, 86, 88, 156, 157, The Virginian Record of, 156, var. Canbyi, 157; ternata, 157
Oxytropis ixodes, 20

Panicularia americana, 261; nervata, 261
Panicum, 91, 99, 123, 254; sub-§ Lanuginosa, 122; boreale, 239; cruscorvi, 123; crusgalli, 123; echinatum, 123; **glutinoscabrum, 122,** 192, **pl. 1059;** lanceolatum, 123; setigerum, 123; setosum, 123; stagninum, 123; virgatum, 24
Paronychia canadensis, 201
Parosela, 164
Paspalum lentiferum, 121; longepedunculatum, 122; praecox, var. Curtisianum, 99, 121; setaceum, 99, 121, 122, 192, pl. 1058, var. **calvescens, 121,** 122, 192, **pl. 1057,** var. longepedunculatum, 122, 192, pl. 1058
Passifloraceae, 58
Peaks of Otter, New Clematis from the, 219
Pear, Chinese, 231
Pears, 229, 231
Pecan, 194–196
Pellaea atropurpurea, 200
Penstemon australis, 179; canescens, 179, 180; gracilis, 256, in

Indiana, 256, var. wisconsinensis, 293, [subsp.] wisconsinensis, 293, var. **wisconsinensis, 293**; wisconsinensis, 293
Persea, 152, 153; borbonia, 152
Petalostemum, 163; oreophilum, 163, a Species of Dalea, 163
Phacelia fallax, 177; maculata, 177
Phalaris, 276; arundinacea, 277, f. variegata, 277, var. picta, 277, var. variegata, 277; canariensis, 276; caroliniana, 90
Phaseolus mungo, 80; polystachios, 180
Philohela minor, 82
Phleum, 272; alpinum, 240; pratense, 272, var. nodosum, 272
Phragmites, 264; communis, var. Berlandieri, 264, var. stolonifera, 264
Physalis, 102; heterophylla, 178, 179, 193, pl. 1081, var. ambigua, 178, 179, 193, pl. 1082, var. **clavipes, 178,** 179, 193, **pls. 1080, 1081,** var. nyctaginea, 178, 179, 193, pl. 1082; pubescens, 178
Phytogeography, Equisetum palustre, Example of careless Bibliography and, 278
Picea, 83; mariana, 83
Pig-nut "Hickery", 194–196
Pinaceae, 255
Pine, white, 161, 172, 173
Pines, 228
Pisum maritimum, 196
Plant Collecting, Use of Alcohol in, 207; Use of Formaldehyde in, 54
Plantaginaceae, 255
Plantago juncoides, 247
Plants new to the Flora of the Islands of Saint-Pierre et Miquelon, 237; Notes on Drying, 220; Some Noteworthy Catskill, 53
Pleurogyne rotata, 154
Pluchea purpurascens, 90
Poa, 262; in Cook County, Minnesota, The Genus, 1, pls. 1051, 1052; sect. Oreinos, 17, 18; alsodes, 241, 262; angustifolia, 262; annua, 2, 4, 262, var. reptans, 241; aspera, var. laxiuscula, 12; caesia, 12, var. strictior, 7, 11, 12; Chapmaniana, 262; compressa, 2, 5, 241, 262; conferta, 12; crocata, 9–11; debilis, 262; Fernaldiana, 17; flexuosa, 17, 18; glauca, 1, 3, 6, 11, 12, 14, 17, subsp. conferta, 3, 12, var. laxiuscula, 12, 13, subsp. glaucantha, 3, 4, 13–16, pl. 1052, × P. nemoralis, 14; interior, 6–10, 21; languida, 262; laxa, 17, 18, 253; nemoralis, 1, 3, 6–12, 14, 262, f. micrantha, 8, f. Reichenbachii, 8, f. vulgaris, 6, var. **interior,** 3, **6,** 8–10, 14–16, 20, 21, pl. 1052, var. montana, 3, 9–11, var. strictior, 11; Nyaradyana, 17; palustris, 3, 5, 11, 241, 262; Pattersoni, 17; pratensis, 2, 4, 5, 262, f. humilis, 4, var. angustifolia, 4, 5; saltuensis, 2, 5, 262, var. microlepis, 5; **scopulorum,** 4, **16**–20, **pl. 1051**; serotina, 5; subtrivialis, 8; sylvestris, 199; × **tormentuosa,** 4, **14**–16, 21, **pl. 1052**; triflora, 5, 11, 262; trivialis, 241, 262; Wolfii, 201
Pogonia affinis, 135, 136; verticillata, 135
Polemonium, 119, in Minnesota, Variety of a Western, 118; caeruleum, 119; occidentale, 119, subsp. lacustre, 119, var. **lacustre, 119**; reptans, 118
Polygala polygama, 97
Polygonaceae, 255
Polygonum arifolium, 90; aviculare, var. vegetum, 140; convolvulus, 80; hydropiperoides, var. euronotorum, 92; mite, 141; natans, f. Hartwrightii, 247; Persicaria, var. angustifolium, 140, var. ruderale, 141; sagittatum, var. gracilentum, 90, 141
Polypodiaceae, 255
Polypogon, 272; monspeliensis, 272
Pondweed, 255
Port Orford cedar, 228
Portulacaceae, 255
Postglacial Forest Succession, Climate and Chronology in the Pacific Northwest (Review of the Study by Henry P. Hansen), 227
Potamogeton confervoides, 239; diversifolius, 105; epihydrus, 256; Oakesianus, 239; pectinatus, 239; tennesseensis, 255, 256, new to the Manual Range, 255
Potentilla argentea, 249
Potter, David, Reports on the Flora of Massachusetts—IV, 257
Prenanthes crepidinea, 202
Preparation of Botanical Specimens, Use of DDT in the, 286
Primulaceae, 255
Prince, Alton E., Shortia galacifolia in its Type Locality, 159

Proctor, George R., Some Noteworthy Catskill Plants, 53
Psilocarya, 88; nitens, 87, 125; scirpoides, var. Grimesii, 124
Psoralea onobrychis, 80
Pteridophyta, 206
Pterolepis, 52
Ptilimnium, 157; viviparum, 157
Puccinellia, 254, 260; Borreri, 260; distans, 241, 260, var. angustifolia, 260, var. tenuis, 260; fasciculata, 260; maritima, 260; paupercula, var. alaskana, 260; pumila, 260
Pueraria Thunbergiana, 150
Pyrola chlorantha, 250
Pyrus, 230–232, Minor Transfers in, 229; americana, 248, 249, × arbutifolia, var. atropurpurea, 249; arbutifolia, 231, var. atropurpurea, 249; Arsenii, 248, 249; baccata, 229; coronaria, var. **dasycalyx, 232**, var. **lancifolia, 232**; decora, var. **groenlandica, 233**; domestica, 231; dumosa, 248, 249; × **fallax, 233**; floribunda, 231; × **Jackii, 232**; lancifolia, 232; × **mixta, 232**; Miyabei, 229, 230; pyrifolia, 231; Sargenti, 233; sorbifolia, 232

Quaking Grass, 262
Quebec, Cornus racemosa in, 23
Quercus alba, 138, 139, f. latiloba, 138, 139, f. repanda, 138, 139, × Michauxii, 139, pinnatifida, 139, var. latiloba, 138, var. repanda, 138; × Beadlei, 139; falcata × nigra, 140, × Phellos, 140; × garlandensis, 140; hemisphaerica, 102, 140; imbricaria, 140; laurifolia, 140; × ludoviciana, 140; marilandica × Phellos, 140; Phellos, 140, var. laurifolia, 140; Prinus, 139; × Rudkini, 140; velutina, 139, f. dilaniata, 139, f. macrophylla, 139, f. pagodaeformis, 139, 140; virginiana, 139, var. maritima, 139
Quitch Grass, 265

Ranunculaceae, 255
Ranunculus abortivus, 247; micranthus, 180
Rattlesnake Grass, 261
Raup, Hugh M., Postglacial Forest Succession, Climate and Chronology in the Pacific Northwest (Review of the Study by Henry P. Hansen), 227
Raymond, Marcel, Cornus racemosa in Quebec, 23
Record of Oxypolis filiformis, The Virginian, 156
Red Bay, 152, 153; cedar, 172–174, in eastern Massachusetts, Distribution of, 172; maple, 172; oak, 172
Red Top, Tall, 264
Redwood, 228
Reed, 264; Canary Grass, 277; Meadow Grass, 261
Reedgrass, 270
Reports on the Flora of Massachusetts—IV, 257
(Review), Flora of Kalamazoo County, 143; Fruits of Trees, 83; of the Study by Henry P. Hansen, Postglacial Forest Succession, Climate and Chronology in the Pacific Northwest, 227; The Genus Crepis, 297
Rhexia ciliosa, 98, 155; mariana var. purpurea, 98; Nashii, 98
Rhodia radix, 79
Rhodiola, 80; Rosea, 80
Rhododendron carolinianum, 116, naturalized in New England, 116
Rhus Vernix, 24
Rhynchospora, 91, 98; chalarocephala, 98, 125; debilis, 98, 125; filifolia, 87; fusca, 243; glomerata, 86; perplexa, 98, 101, 126, 193, pl. 1060, var. **virginiana, 125,** 193, **pl. 1060**; rariflora, 98, 125
Ribbon Grass, 277
Ribes, 217, 219; albinervium, 217; americanum, 217; glandulosum, 217, 218; hudsonianum, 217–219, versus Ribes rigens, 217; lacustre, 218; nigrum, 219; oxyacanthoides, 217; recurvatum, 217; rigens, 217–219, Ribes hudsonianum versus, 217; trifidum, 217, 218; triste, 217
Rice, Wild, 277; Cutgrass, 277
Rorippa sessiliflora, 201
Rosaceae, 255
Rosea, 79, 80; radix, 79
Rosebay, 152
Rosendahl, C. O., New Variety of Sedum Rosea from Southeastern Minnesota and additional Notes on the Flora of the Region, 197, pl. 1086; Studies in Chrysosplenium, with special Reference to the Taxonomic Status and Distribu-

tion of C. iowense, 25, pls. 1053, 1054
Roseroot, 79
Rouleau, Ernest, Ribes hudsonianum versus Ribes rigens, 217
Rubiaceae, 255
Rubus, 92, 95, 144; § Arguti, 147; § Cuneifolii, 147; § Flagellares, 145, 146; § Tholiformes, 146; Akermani, 146; celer, 95, 145, 146; cuneifolius, 95; **cupressorum, 147,** 148, 193, **pls. 1072–1074;** flagellaris, 92, 145; Humei, 95, 147; **hypolasius, 145,** 146, 193, **pls. 1064–1066;** immanis, 147; jugosus, 148; **subinnoxius, 146,** 193, **pls. 1067–1069;** suus, 147; **uliginosus, 147,** 193, **pls. 1070, 1071;** vixargutus, 147, 148
Ruellia strepens, 180
Rumex Acetosella, var. pyrenaeus, 140; Britannica, 247; fenestratus, 246; occidentalis, 246; orbiculatus, 247
Rye, 265
Ryegrass, 267

Sabatia, 159; difformis, 86, 95, 159
Sagittaria, 107; latifolia, 106, 107, var. obtusa, 106, 107, 192, pl. 1056; **planipes, 106,** 107, 192, **pl. 1056;** radicans, 107; virginiana, 108, obtusiore etc., 108
Saint-Pierre et Miquelon, Plants new to the Flora of the Islands of, 237
Salicaceae, 255
Salicornia, 254; europaea, 23, var. pachystachya, 23, var. prostrata, 247, var. **simplex, 23;** herbacea, β. pachystachya, 23, var. pachystachya, 23, β. simplex, 23
Salix, Studying Willows or making new Sections in the Genus, 37; sect. Argenteae, 45–47; sect. Argyrocarpae, 37, 44; sect. Capreae, 45, 47; sect. Cordatae, 41; sect. Diandrae, 43, 44; sect. Griseae, 47; sect. Herbaceae, 38, 39, 44; sect. Lucidae, 41; sect. Myrtosalix, 38; sect. Ovalifoliae, 38; sect. Phylicifoliae, 45–47; sect. Repentes, 45; sect. Reticulatae, 38; sect. Retusae, 38; sect. Sitchenses, 43, 45; sect. Uva-ursi, 37–39, 42–44; sect. Virentes, 45; arbuscula, 46; arbusculoides, 46, 47; argyrocarpa, 44–48; bella, 45, 47; candida, 246; caprea, 45; cordifolia, var. callicarpaea, 246; Coulteri, 43; Cutleri, 38–40, 42, 43; discolor, 45; Dodgeana, 38–40, 44; Drummondiana, 45–47; Farrae, 41; fulcrata, 45; Geyeriana, 46; glacialis, 38; gracilis, 45, 46; herbacea, 37–44; humilis, 45–47; humillima, 46; lasiandra, 41; ligulifolia, 41; lucida, 41; lutea, 41; mackenziana, 41; macrocarpa, 46; monochroma, 41; myrsinites, 38; myrtillifolia, 41, var. brachypoda, 41; ovalifolia, 38, 40; pedicellaris, var. hypoglauca, 41; pellita, 45–48, 246; petiolaris, 45–48; phlebophylla, 38–40; 42–44, phylicifolia, 45; phylicoides, 46; planifolia, 45, 246; polaris, 38–44; pseudocordata, 41; pulchra, 46; purpurea, 43; repens, 45; reticulata, 38, 42; retusa, 38, 42; rotundifolia, 38–40, 43, 44; Scouleriana, 45; sericea, 45–48; serissima, 41; Setchelliana, 37; sitchensis, 43, 45, 46; subcoerulea, 45–47; subsericea, 45–47; tenera, 38, 43; tristis, 45–47; uva-ursi, 37–44, 246
Sand Grass, 265
Sanford, S. N. F., Reports on the Flora of Massachusetts—IV, 257
Sanicula Smallii, 96, 156
Sapium, 59
Sapodilla, 289–292
Sapota, 290; Achras, 290; achras γ. depressa, 292
Sapotaceae, 289, 292
Sapote, 290–292
Sarracenia flava, 94
Sarraceniaceae, 255
Satureia vulgaris, 251
Savastana odorata, 276
Sawgrass, 90
Saxifraga Forbesii, 202
Saxifragaceae, 25, 28, 255
Saxifrage, Golden, 26
Schizachne, 264; purpurascens, 264
Schizaeaceae, 255
Schultes, Richard Evans, Use of Formaldehyde in Plant Collecting, 54
Scirpus, 82; Unverified Bibliography of, 49; subg. Euscirpus, 50, sect. Cladanthei, 50, sect. Phyllantheli, 50; subg. Isolepis, 51; subg.

Nemocharis, 50; sect. Actaeogeton, 52; § Androcoma, 50; [sect.] Androcoma, 50; sect. Baeothryon, 51; sect. Eleogiton, 51; § Eu-Scirpus, 52, sub-§ Lacustres, 52, sub-§ Littorales, 52, sub-§ Mucronatae, 52; § Heliogiton, 51; sect. Holoschoenus, 52; sect. Isolepis, 51, 52; sect. Monocephales, 49, 50; sect. Monostachyae, 50; sect. Nemocharis, 50; sect. Oxycaryum, 49; § Phylloscirpus, 50; § Phyllothryon, 50; sect. Pterolepis, 52; sect. Reigera, 50; § Schoenoplectus, 52, subsect. Actaeogeton, 52; sect. Trichophorum, 50, 51; americanus, 52; atrocinctus, 242; atrovirens, var. georgianus, 242; cubensis, 49; cyperinus, 51; Eriophorum, 202; etuberculatus, 90; eupaluster, 62; lacustris, 50, 52; lineatus, 50; mamillatus, 62; maritimus, 50; mucronatus, 52; Olneyi, 52, 95, 127, 185; riparius, 52; rubricosus, 202; supinus, 52; sylvaticus, 50; uniglumis, 62; validus, var. creber, 242
Scleria minor, 94, 126; Muhlenbergii, 87; reticularis, 87
Scleropoa, 260; rigida, 260
Scrophularia marilandica, 180
Scrophulariaceae, 255
Scutellaria, 99; elliptica, var. hirsuta, 179; integrifolia, 177, subsp. hispida, 177, var. hispida, 94, 177, var. multiglandulosa, 99, 101, 177; multiglandulosa, 99, 177
Secale, 265; cereale, 265
Sections in the Genus Salix, Studying Willows or making new, 37
Sedge, 299
Sedum, 80, 197, 198; acre, 248; Rosea, 80, 197, from Southeastern Minnesota and additional Notes on the Flora of the Region, New Variety of, 197, pl. 1086, not S. roseum, 79, var. **Leedyi, 198, pl. 1086;** roseum, 53, 79, 80; ternatum, 180
Selaginella, 254; selaginoides, 238
Selaginellaceae, 254, 255
Senecio aureus, 253; Jacobea, 253
Sequoia sempervirens, 228
Seymour, Frank C., Helianthus grosseserratus in New England, 115; Reports on the Flora of Massachusetts—IV, 257
Shortia, 160, 161; galacifolia, 159, 160, in its Type Locality, 159
Sida, 97, 98; inflexa, 97, 98
Sieglingia, 254; decumbens, 240
Sisyrinchium capillare, 94, 134
Sloanea, 292; emarginata, 292, 293
Smilax laurifolia, 90
Smith, L. B., Reports on the Flora of Massachusetts—IV, 257
Solanaceae, 58, 288
Solidago, 70, 71, 89, Notes on Compositae of Northeastern United States IV., 69; altissima, var. rugosa, 78; arguta, 71, var. caroliniana, 79; aspera, 78; asperula, 295; bicolor, 295; Boottii, 79, var. **Boottii, 79,** var. **caroliniana, 79;** caesia, 295; canadensis, 295; Chandonnetii, 77; chrysolepis, 294–297; confertiflora, 75, 76; decumbens, 73–76, var. oreophila, 74–76; × **Farwellii, 296;** Fisheri, 77; fistulosa, 98, 189, f. **epilis, 189;** flexicaulis, 295; glutinosa, 76, subsp. **glutinosa, 76,** var. **glutinosa, 76,** var. **nana, 76,** subsp. **Randii,** 76, **77,** var. **Gillmani,** 76, **77,** var. **racemosa,** 76, **77,** var. **Randii,** 76, **77;** graminifolia, var. Nuttallii, 189; × hirtipes, 89, 189; humilis, 73, 75, 294, var. Gillmani, 77, var. nana, 76, var. peracuta, 73, 296; humilius, 294; jejunifolia, 77; juncea, 93, 188, var. **neobohemica, 188;** linearia, 69, 70; linoides, 72, 296; microcephala, 189; missouriensis, 71; mollis, 71; multiradiata, var. neo-mexicana, 76; neglecta, 70–72, 294, 295, 297, var. linoides, 70, 73, 296, var. simulans, 296, var. uniligulata, 296; nemoralis, var. Haleana, 98, 188; neomexicana, 76; obtusifolia, 69, 70; odora, 70; oreophila, 76; petiolata, 69, 70; pilosa, 98, 189; racemosa, 73–75, 77; Randii, 73–75; rugosa, 78, 79, 295, subsp. **aspera, 78,** subsp. **rugosa, 78,** var. **rugosa, 78,** var. typica, 78; sempervirens, 295; simulans, 296; speciosa, 77, var. **jejunifolia, 77,** 78, var. pallida, 77, var. rigidiuscula, 77, 78; stricta, 69–71; Terrae-Novae, 297; uliginosa, 70–73, 294–296, Varieties of, 294, var. **levipes,** 295, **296,** 297, var. **linoides,** 295, **296,** 297, var. peracuta, 73, 296,

var. **terrae-novae**, 295, **297**, var. **uliginosa**, **73**, 295–297; ulmifolia, 78, 79, var. **Palmeri**, **78**, var. **ulmifolia**, **78**; uniligulata, 71–73, 294–297, var. levipes, 296, 297, var. neglecta, 295, var. terrae-novae, 297; verna, 93; villosa, 98, 189; Virgaurea, var. monticola, 77, var. Randii, 77; yadkinensis, 79
Some Noteworthy Catskill Plants, 53
× Sorbaronia, 232; fallax, 233; Jackii, 232, 249; sorbifolia, 232
× Sorbopyrus, 232
Sorbus, 229–232; § Aria, 230; americana, var. groenlandica, 233; alnifolia, 230, 231; Aria, 230; Aucuparia, 231; decora, var. groenlandica, 233; domestica, 231; Sargenti, 233; sorbifolia, 232
Southeastern Plants, Mexican Station for three Manual-range and, 202
Sparganiaceae, 255
Sparganium americanum, 239; chlorocarpum, var. acaule, 239; hyperboreum, 239; multipedunculatum, 239
Spartina, 275; alterniflora, 276, var. pilosa, 276; caespitosa, 276; cynosuroides, 90, 113, 275, The two Varieties of, 113, var. polystachya, 113, 275; glabra, var. alterniflora, 276; juncea, 114, 115; Michauxiana, 275; patens, 114, 115, 276, var. caespitosa, 276, var. juncea, 114, 276, var. **monogyna**, **114**, 276; pectinata, 275, var. Suttiei, 275
Spear Grass, 262
Species of Dalea, Petalostemum oreophilum, a, 163; of Iris, Two Eastern American, 210; of Najas in eastern Virginia, Najas Muenscheri and other, 233
Specimens, Use of DDT in the Preparation of Botanical, 286
Spergularia canadensis, 247; media, 247; rubra, 247; salina, 247
Sphagnum, 87, 89, 99, 155
Sphenopholis, 267; intermedia, 268; nitida, 268; obtusata, 267, var. lobata, 268; pallens, 97, 268, var. major, 268; palustris, 268
Spike Grass, 264
Spiranthes Beckii, 136; gracilis, 136; lacera, 136; tuberosa, 136, var. Grayi, 136
Sporobolus, 273; asper, 273; cryptandrus, 273; neglectus, 273; uniflorus, 272; vaginiflorus, 273, var. inaequalis, 273
Spotted knapweed, 84
Sprangletop, 275
Spruce, black, 83
Spruces, 228
Station for Epipactis Helleborine in New Hampshire, New, 60; for three Manual-range and Southeastern Plants, Mexican, 202
Stellaria humifusa, 247; pubera, 180
Stenanthium gramineum, var. micranthum, 132
Stewartia, 151; Malachodendron, 151
Steyermark, Julian A., Herman C. Benke, [obituary], 142; Notes on Drying Plants, 220
Stipa, 274; avenacea, 274; canadensis, 274
Studies in Chrysosplenium, with special Reference to the Taxonomic Status and Distribution of C. iowense, 25, pls. 1053, 1054
Studying Willows or making new Sections in the Genus Salix, 37
Stylosanthes biflora, var. hispidissima, 150; riparia, 150
Subtractions from the Flora of Virginia, Additions to and, 85–115, 121–142, 145–149, 175–194, pls. 1056–1085
Sudbury River, Lemna minor as an aggressive Weed in the, 165
Sugar maple, 172
Svenson, H. K., Group of Eleocharis palustris in North America, 61
Sweet Vernalgrass, 276
Swertia pusilla, 154
Syena fluviatilis, 130
(Symphoricarpos orbiculatus), Notes on the Coral-berry, 117
Symplocos tinctoria, var. pygmaea, 158
Syngonanthus flavidulus, 86, 128, 129, Exit, 128

Tall Red Top, 264
Tan Bay, 151
Taxaceae, 255
Taxodium, 95
Taxonomic Status and Distribution of Chrysosplenium iowense, Studies in Chrysosplenium, with special Reference to the, 25, pls. 1053, 1054

Tetragonotheca, 97; helianthoides, 97
Texas, New Dyssodia from, 161
Thalictrum dioicum, 247
Theaceae, 151
Thelypteris palustris, var. pubescens, 238
Thuja occidentalis, 143; plicata, 228
Tiedemannia teretifolia, 156
Timothy, 272
Titherington, Robert J., New Station for Epipactis Helleborine in New Hampshire, 60
Tofieldia racemosa, 93
Tovara virginiana, 202
Tracyanthus angustifolius, 132
Trachynotia juncea, 114, 115; polystachya, 113
Tragus, 275; Berteronianus, 275
Transfers in Pyrus, Minor, 229
Trapa, 171; natans 170
Trichodium altissimum, 109; elatum, 109, 110, 113
Trichophorum, 50, 51; alpinum, 50; cyperinum, 50, 51; lineatum, 50
Tridens flavus, 264
Trifolium agrarium, 249
Triglochin palustris, 239
Trillium, 254; cernuum, 246
Triodia, 264; flava, 264
Triplasis, 265; purpurea, 101, 108, 265
Trisetum, 254, 268; flavescens, 268; pensylvanicum, 268; spicatum, 268, var. molle, 268, var. pilosiglume, 240
Triticum, 265; aestivum, 265
Tsuga, 83
Tulip-tree, 83
Two Eastern American Species of Iris, 210; new Forms, 216
Type Locality, Shortia galacifolia in its, 159
Typha, 89; angustifolia, 116

Umbelliferae, 255
United States, IV. Solidago, Notes on Compositae of Northeastern, 69
Unverified Bibliography of Scirpus, 49
Urticaceae, 255
Use of Alcohol in Plant Collecting, 207; of DDT in the Preparation of Botanical Specimens, 286; of Formaldehyde in Plant Collecting, 54

Vaccinium spp., 22; membranaceum, 207
Vanilla Grass, 276
Varieties of Lobelia puberula, The Geographic, 182; of Solidago uliginosa, 294; of Spartina cynosuroides, The two, 113
Variety of a Western Polemonium in Minnesota, 118; of Equisetum Telmateia, North American, 203; of Sedum Rosea from Southeastern Minnesota and additional Notes on the Flora of the Region, New, 197, pl. 1086
Velvet Grass, 269
Verbascum phlomoides, 67, 68, pl. 1055, in Iowa, 67, pl. 1055; thapsiforme, 68; Thapsus, 68, pl. 1055
Verbena scabra, 90; simplex, 24
Vernalgrass, Sweet, 276
Viburnum americanum, 252; edule, 252; nudum, var. angustifolium, 93, 182; pauciflorum, 252; trilobum, 252
Vicia Cracca, 250; sativa, var. linearis, 150; Sepium, 288, in New Brunswick, 288
Victoria regia, 58
Viola eriocarpa, 199; lanceolata, 250
Violaceae, 255
Virginia, Additions to and Subtractions from the Flora of, 85–115, 121–142, 145–159, 175–194, pls. 1056–1085; Does Gordonia grow in?, 151; Is Dichromena latifolia in?, 124; White-flowered Desmodium from, 299
Virginian, Baccharis glomeruliflora presumably not, 189; Occurrence of Kalmia hirsuta, 158; Record of Oxypolis filiformis, The, 156
Vitis aestivalis, 151; araneosa, 150; rotundifolia, 22; rufotomentosa, 150, 151; vinifera, 150
Vulpia, 259; dertonensis, 259; myuros, 259; octoflora, var. tenella, 259

Wadmond, S. C., New Binomial in Juncus, 120
Water Carpet, 26; chestnut, 171; lily, 171
Water-Ash, 91
Water-hyacinths, 202
Water-lily, 94
Weed in the Sudbury River, Lemna minor as an aggressive, 165
Wedgegrass, 267
Western juniper, 228; red cedar, 228
Wheat, 265

White ash, 172; "Hickery", 195; oak, 172; pine, 161, 172, 173
White-flowered Desmodium from Virginia, 299
Wild dilly, 289, 290, 292, 293; of Florida, Name of the, 289; Rice, 277
Wild-rye, 266
Willow, basket, 43
Willows, 38, 39, 44, 46–48; or making new Sections in the Genus Salix, Studying, 37
Woodreed, 271
Woodsia glabella, 53

Xanthorhiza simplicissima, 179
Xyridaceae, 254, 255
Xyris, 88, 129, 254; § Brevifoliae, 88, 129; ambigua, 86; arenicola, 99, 129; Bayardi, 88, 129; caroliniana, 86; Curtissii, 88; flexuosa, 99, 129; montana, 239, 245

Zanthoxylum americanum, 24
Zea mays, 80
Zigadenus densus, 93, 132; glaberrimus, 93; glaucus, 199
Zingiberaceae, 288
Zizania, 277; aquatica, 277, var. angustifolia, 277, var. brevis, 277; palustris, 277

RATES FOR SPECIAL NUMBERS OF RHODORA

Many of the single numbers can be supplied only at special prices, as follows:

Vol. 12, no. 134: 50c
no. 138: 45c

Vol. 13, no. 151: 70c

Vol. 14, no. 163: 60c

Vol. 15, no. 171: 45c

Vol. 16, no. 182: 45c

Vol. 17, no. 193: 45c

Vol. 18, no. 205: 50c

Vol. 19, no. 224: 45c
no. 225: 50c

Vol. 21, no. 241: 45c
no. 243: 45c

Vol. 23, no. 265: 45c
no. 268: 45c
no. 269: 45c
no. 270: 45c
no. 271: 45c
no. 274: 45c
no. 275: 45c

Vol. 24, no. 279: 45c
no. 283: 45c

Vol. 25, no. 296: 45c

Vol. 26, no. 304: 50c
no. 305: 60c
no. 306: 45c

Vol. 28, no. 331: 45c

Vol. 29, no. 346: 45c

Vol. 30, no. 351: 50c
no. 356: 45c
no. 357: 45c

Vol. 31, no. 364: 50c
no. 369: 50c
no. 370: 50c

Vol. 32, no. 376: 45c
no. 382: 50c
no. 383: 45c

Vol. 33, no. 386: 60c
no. 388: 45c
no. 389: 45c
no. 391: 45c

Vol. 34, no. 403: 45c
no. 407: 45c

Vol. 35, no. 410: 50c
no. 418: 50c
no. 419: 50c

Vol. 36, no. 425: 55c
no. 426: 50c
no. 429: 70c
no. 430: 55c

Vol. 37, no. 435: 60c
no. 436: 70c
no. 437: 50c
no. 439: 60c
no. 440: 60c
no. 441: 50c
no. 443: 55c
no. 444: 55c

Vol. 38, no. 445: 50c
no. 448: 70c
no. 450: 70c
no. 455: 55c
no. 456: 50c

Vol. 39, no. 458: 50c
no. 463: 55c
no. 464: 75c
no. 466: 55c

Vol. 40, no. 471: 55c
no. 476: 50c
no. 477: 55c
no. 478: 60c
no. 479: 55c

Vol. 41, no. 482: 55c
no. 486: 55c
no. 487: 50c
no. 488: 60c
no. 489: 95c
no. 490: 50c
no. 491: 50c

Vol. 42, no. 499: 50c
no. 500: 60c
no. 502: 50c
no. 503: 70c

Vol 43, no 509: 50c
no. 512: 50c
no. 513: 50c
no. 514: 70c
no. 515: 75c

Vol 44, no. 520: 70c
no. 525: 75c
no. 526: 75c
no. 527: 70c
no. 528: 60c

Vol. 45, no. 531: 60c
no. 532: 55c
no. 533: 55c
no. 534: 75c
no. 535: 70c
no. 538: 85c
no. 539: 75c
no. 540: 75c

Vol. 46, no. 542: 50c
no. 544: 60c
no. 545: 55c
no. 546: 55c
no. 547: 50c
no. 548: 45c
no. 550: 55c
no. 551: 55c
no. 552: 50c

Vol. 47, no. 553: 75c
no. 554: 50c
no. 555: 60c
no. 556: 75c
no. 557: 75c
no. 558: 50c
no. 559: 75c
no. 560: 60c
no. 562: 85c
no. 563: 85c

Vol. 48, no. 566: 60c
no. 567: 50c
no. 568: 60c
no. 569: 50c
no. 570: 50c
no. 571: 60c
no. 572: 50c
no. 573: 70c
no. 574: 70c
no. 575: 70c
no. 576: 50c